

## OFFERING MEMORANDUM

In connection with a private placement in

### PharmaCo AS

(a limited liability company incorporated under the laws of Norway, under name change from Alfanor 17180 AS)

This offering memorandum (the "**Offering Memorandum**") has been prepared in connection with the private placement of new shares (the "**Private Placement**") in PharmaCo AS (the "**Company**"), a private limited liability company incorporated under the laws of Norway. The Private Placement comprises an offering of 1,925,243 new shares in the Company, each with a par value of NOK 1, (the "**Offer Shares**") at a subscription price of NOK 5.0 per Offer Share (the "**Subscription Price**"). The Private Placement will be directed towards (i) the shareholders of NattoPharma ASA ("**NattoPharma**") as of the end of 24 November 2017, as registered in the Norwegian Central Securities Depository (the "**VPS**") on 28 November 2017 (the "**Record Date**") (the "**NattoPharma Investors**"), (ii) Synergia Life Sciences Pvt. Ltd. ("**Synergia**"), and (iii) towards certain employees of NattoPharma holding vested share options (the "**Employee Investors**"), all of which only provided that they are not resident in a jurisdiction where such offering would be unlawful or would require any filing, registration or similar action (jointly, the "**Eligible Investors**"). Each NattoPharma Investor will have the preferential right to subscribe for and be allocated one Offer Share per 10 shares registered as held in NattoPharma by such Eligible Investor on the Record Date. Synergia will have a preferential right to subscribe for and be allocated one Offer Share per 10 shares held in NattoPharma as of 24 November 2017 (although not registered in the VPS). The Employee Investors will have the preferential right to subscribe for and be allocated one Offer Share per 10 shares held in NattoPharma as of 24 November 2017 through vested share options. The number of Offer Shares that each Eligible Investor will have the right to subscribe and be allocated will be rounded down to the nearest whole Offer Share. Over-subscription is permitted. **The Subscription Period will commence on 29 November 2017 at 09.00 hours CET and end on 12 December 2017 at 13.00 hours (CET).** Following expiry of the Subscription Period, any Offer Shares that have not been subscribed for and allocated in the Private Placement will be subscribed for and paid for at the Subscription Price by the Underwriters, subject to the terms and conditions of the Underwriting Agreement.

**The Offer Shares are being offered only in those jurisdictions in which, and only to those persons to whom, offers and sales of the Offer Shares may be lawfully made. The Offer Shares have not been, and will not be, registered under the United States Securities Act of 1933 (the US Securities Act), as amended, or with any securities regulatory authority of any state or other jurisdiction of the United States and may not be offered, sold, exercised, pledged, resold, granted, delivered, allocated, taken up or transferred in any other way, directly or indirectly, except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the US Securities Act and in compliance with any applicable securities law of any state or other jurisdiction of the United States. The Private Placement will not be directed towards persons who are residents of Australia, Canada, Japan, Hong Kong, Switzerland or in any jurisdiction in which such offering would be unlawful.**

See Section 1 "Risk Factors" for a discussion of certain risk factors to be considered in connection with an investment in the Offer Shares.

\* \* \*

The date of this Offering Memorandum is 28th of November 2017

## **IMPORTANT INFORMATION**

This Offering Memorandum is prepared by PharmaCo AS for the Private Placement of up to 1,925,243 Offer Shares in the Company. Subscribers of Offer Shares should note that the Company is not obliged to prepare a prospectus in relation to the Private Placement, that this Offering Memorandum is not a prospectus and that the Offering Memorandum has not been presented to the Norwegian Financial Supervisory Authority, the Oslo Stock Exchange or any public authorities for their review.

No action has been or will be taken in any country or jurisdiction by the Company that would permit an offering of the Offer Shares, or the possession or distribution of any documents relating thereto, or any amendment or supplement thereto, where specific action for such purpose is required. In particular, the Private Placement and this Offering Memorandum neither have nor will be registered under the U.S. Securities Act or under any other state securities laws.

The distribution of this Offering Memorandum cannot under any circumstances be interpreted as if there have not been any changes to the description of the Company or the Offer Shares in the Offering Memorandum after the date hereof. All inquiries relating to this Offering Memorandum should be directed to the Company. No other person is authorized to give any information about, or to make any representation on behalf of, the Company in connection with the Private Placement. If any such information is given or representation made, it must not be relied upon as having been authorized by the Company.

The Offering Memorandum comprises significantly less information than what is required in a prospectus. Before deciding whether to subscribe for any Offer Shares investors should make themselves familiar with the contents of this Offering Memorandum, other publicly available information regarding the Company, including information related to the business of the Company previously provided by NattoPharma. Investors are also expressly advised that an investment in the Company entails financial and legal risks. The contents of this Offering Memorandum are not to be construed as legal, financial or tax advice. Investors should consult their own legal, financial and/or tax advisor for legal, financial or tax advice.

This Offering Memorandum and the Private Placement are subject to Norwegian law. Any dispute arising in respect of or in connection with this Offering Memorandum or the Private Placement is subject to the exclusive jurisdiction of Norwegian courts with Oslo District Court (Oslo tingrett) as legal venue.

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**Appendix 1 - “Subscription Form for the Private Placement”**

# 1 RISK FACTORS

## 1.1. General

An investment in the Shares, including the Offer Shares, involves risk. Prospective investors should carefully consider the risks outlined in this Section, as well as the information contained elsewhere in the Offering Memorandum, before deciding whether or not to invest in Offer Shares. If any of the following risks were to materialize, this could have a material adverse effect on the Company and/or its business, financial condition, results of operations, liquidity and/or prospects, the value of the Shares could decline, and investors may lose all or part of their investment. The order in which the risks are presented does not necessarily reflect the likelihood of their occurrence or the magnitude of their potential impact on the Company.

A prospective investor and shareholder in the Company should carefully consider the factors set forth below, and elsewhere in this Offering Memorandum, and should consult his or her own expert advisors as to the suitability of an investment in the Shares of the Company. An investment in the Shares, including the Offer Shares, is suitable only for investors who understand the risk factors associated with this type of investment and who can afford a loss of all or part of the investment.

The risks and uncertainties described in this Section are the principal known risks and uncertainties faced by the Company as of the date hereof that the Company believes are the material risks relevant to an investment in the Offer Shares.

## 1.2. Risks related to PharmaCo's business and the industry in which it operates

### 1.2.1. Risks related to non-completion of Transaction

The Company has recently entered into an agreement with its sole shareholder, NattoPharma, in order to acquire all rights all rights and obligations related to NattoPharma's pharmaceutical business (the "Transaction"). The Transaction has, as of the date of this Offering Memorandum, not yet been consummated. Consequently, there is a risk that the Transaction will not be consummated due to factors outside the Company's control.

If the Transaction is not consummated, the Company's strategy to develop a pharma product based on vitamin K2 will be significantly less likely to succeed, which will increase the Company's capital requirements and have a material adverse effect on the Company's strategies, financial position and the possibilities of return on investment for the Company's shareholders.

### 1.2.2. History of operation and level of activity

PharmaCo is a new legal entity and has no former legal history. The Company is currently wholly owned by NattoPharma. The Company is about to enter into an agreement to acquire all rights and obligations related to NattoPharma's pharmaceutical business through the Transaction. However, please note that the Transaction has not yet been consummated. NattoPharma has over many years invested in research and science in vitamin K2, and PharmaCo was establish as a separate legal entity to organize and pursue the therapeutic potential within the K2 pharmaceutical area.

Following completion of the Transaction, the Company will seek to develop products that may be sought registered as medical devices or drugs. Such product development involves a high degree of risk, including extensive and costly clinical trials. There is a risk that the Company may not be able to develop the pharmaceutical business and generate revenues in line with objectives and expectations.

Furthermore, the Company has limited historical relations with suppliers, the distribution network and potential customers. Although the Company believes that it has sufficient business relations and knowledge of the industry through the relationships built up in NattoPharma to strengthen its market position, there is a potential risk that the Company will not succeed in the further development of its business relations.

As the Company's business is concentrated in a single industry, the Company may be more vulnerable to particular economic, political, regulatory, environmental or other developments than a company having a more diversified business.

### **1.2.3. Risks related to possible strategic cooperation**

As part of its strategy, the Company will seek to enter into an industrial and strategic cooperation with bigger pharmaceutical companies. The aim of such cooperation is to reduce costs and risks, and increase the ability to launch vitamin K2 as a pharmaceutical product. However, there can be no assurance that the Company is able to enter into such cooperation. If the Company fails to enter into such cooperation, the Company's strategy to develop a pharma product based on vitamin K2 will be less likely to succeed, will increase the Company's capital requirements and have a material adverse effect on the Company's strategies, financial position and the possibilities of return on investment for the Company's shareholders.

### **1.2.4. The Company is in an early stage of development and the Company's clinical studies may not prove to be successful**

The development of pharmaceuticals involves significant risk, and failure may occur at any stage during development and after marketing approvals have been received, due to safety or clinical efficacy issues. Drug development involves moving drug candidates through research and extensive testing of activity and side effects in preclinical models before authorization is given for further testing in humans in the clinical stage. The clinical stage is divided into three consecutive Phases (I, II and III) with the aim to elucidate the safety and efficacy of a drug candidate before an application for marketing authorization can be filed with the health authorities. Each individual development step is associated with the risk of failure; hence an early stage drug candidate carries a considerable higher risk of failure than a later stage candidate. Moreover, the commencement and completion of clinical trials may be delayed by several factors, including but not limited to unforeseen safety issues, issues related to determination of dose, lack of effectiveness during clinical trials, slower than expected patient enrolment in clinical studies, unforeseen requirements from the regulatory agencies about the conduct of clinical studies, inability or unwillingness of medical investigators to follow the proposed clinical protocols and termination of license agreements necessary to complete trials. Clinical development involves a lengthy and expensive process with highly uncertain outcomes, and results of earlier studies and trials may not be predictive of future clinical trial results.

### **1.2.5. The Company expects to incur losses over the next several years and may never achieve or maintain profitability**

Following completion of the Transaction, the Company expects substantial expenses and losses over the next several years as it continues product and clinical development and aims to obtain regulatory approvals for its products. The Company expects to finance its operations mainly through equity offerings and strategic partnerships with Big Pharma, and will devote substantially all of the Company's financial resources and efforts to research and development, including preclinical studies and clinical trials. The Company's net losses may fluctuate from quarter to quarter. To become and remain profitable, the Company must succeed in developing and eventually commercializing products that generate revenue. This will require the Company to be successful in a range of challenging activities, including completing preclinical testing and clinical trials of the Company's products, discovering additional product candidates, obtaining regulatory approval for these product candidates and manufacturing, marketing and selling any products for which the Company may obtain regulatory approval. The Company is only in the preliminary stages of these activities. The Company may never succeed in these activities and, even if it does, may never generate revenue that is significant enough to achieve profitability.

Investment in pharmaceutical product development is highly speculative because it entails substantial upfront capital expenditures and significant risk that any potential product candidate will fail to demonstrate adequate effect or an acceptable safety profile, gain regulatory approval and become commercially viable.

### **1.2.6. Competition and strategic choices**

Competition is a constant threat to the Company's performance. The competitive situation entails that high requirements are set with respect to the Company's Board and management and the long-term strategic choices made. There is a possibility that new companies may enter the market for pharmaceutical use of vitamin K2 and by that increasing the level of competition. In such a circumstance, the market situation of the Company will be significantly more challenging and may subsequently cause a drop in sales and business opportunities.

The Board' and management's competence and ability to make the correct strategic choices in a dynamic business environment can have a significant effect on the Company's future financial performance and position.

### **1.2.7. Risk related to protection and ownership of intellectual property and know-how**

The success of the Company will depend on the Company's ability to obtain and maintain patent protection for its products, methods, processes and other technologies, to preserve trade secrets, to prevent third parties from infringing proprietary rights of the Company and to operate without infringing the proprietary rights of third parties. The Company relies upon intellectual property and trade secrets rights (IPR) and laws to protect important proprietary rights, and, if these rights are not sufficiently protected, the Company's ability to compete and generate revenue may be negatively affected.

Further, the Company may not obtain sufficient patent protection on the technology embodied in its products and production processes. There is also a risk of IPR infringement claims from third parties, potentially hindering the Company's operations or leading to losses for the Company. In such cases expenses related to legal advisors may be substantial.

The Company's access to and ability to make use of and claim rights pertaining to its patents and other intellectual property developed by consultants on behalf of the Company are, inter alia, subject to the Company being able to meet its payment obligations under its agreements with third parties. Failure to make such payments as they fall due may result in the Company being deprived of its patents and essentially its basis for continued business operations.

### **1.2.8. Regulatory and environmental risks**

The Company conducts business and research in various jurisdictions around the world. Operating internationally increases regulatory requirements to be aware of and to comply with. Changes in regulatory and environmental regulations in the relevant jurisdictions may therefore affect the Company's operations.

Further, the Company's operations could be affected by changes in legal protections and remedies pertaining to intellectual property, trade regulations and procedures and actions affecting approval, production, pricing, reimbursement and marketing of products, as well as by unstable governments and legal systems and intergovernmental disputes. Any of these changes could adversely affect the Company's business, financial condition, results of operations, cash flows, time to market and prospects.

The pharmaceutical industry is under the close scrutiny of the public, governments and the media. In addition, there is significant pressure on the industry from certain nations to make the products available to their population at drastically lower costs. Any increase in such negative public sentiment or increase in public scrutiny or pressure from such nations could lead, among other things, to changes in legislation, to changes in the demand for the products, additional pricing pressures with respect to the products, or increased efforts to undercut intellectual property protections. Such changes could adversely affect the Company's business, financial condition or results of operations.

### **1.2.8 Obtaining regulatory approvals is required for commercialization of the Company's products**

Approvals from the European Commission, the U.S. Food and Drug Administration (the "FDA") and equivalent regulatory authorities in other jurisdictions are needed in order to be allowed to market the Company's products in



Europe, US and other relevant regions respectively. It cannot be guaranteed that the Company will receive and/or obtain future necessary permissions to commercialize the products. Regulatory approvals may be withdrawn, denied, delayed or limited by several reasons as different regulatory bodies around the world have different requirements for approval, this may have an adverse effect on the Company. Delays in obtaining regulatory approvals may delay commercialization and the ability to generate revenues from product candidates, impose extra cost on the Company, diminish competitive advantages and, after product approval, safety or efficacy issues may emerge during post marketing surveillance which may result in withdrawal or restriction of the product approval. Even if the Company obtains regulatory approval for a product, the Company's products will remain subject to regulatory scrutiny. The authorities have wide discretion in their drug approval process and may request further testing before approval or post marketing.

#### **1.2.9. Risk related to market success**

The Company is dependent on entering into distribution-, cooperation-, supply- and/or license agreements to generate and increase revenue. The Company's timeline to revenue generating business will be several years. There cannot be made any guarantees that the Company in the future will be able to enter into such agreements in order to generate sufficient revenues required for continuation of its business. Hence, an investment in the Shares could result in a significant or a total loss of the investment. Should such agreements for any reason be delayed, reduced or terminated, this may have an adverse effect on the Company's business operations.

#### **1.2.10. The Company will rely upon third-parties for clinical trials and manufacturing**

The Company cannot be certain that it will be able to enter into or maintain satisfactory agreements with third-party suppliers, like contract research organizations ("CRO's") for the conduct of clinical studies or manufacturers. The Company's need to amend or change providers for the conduct of clinical studies might impact the timelines of the conduct of such studies. The Company's failure to enter into agreements with such suppliers or manufacturers on reasonable terms, if at all, could have a material and adverse effect on the business, financial condition and results of operations. The Company needs to ensure that the manufacturing process complies with applicable regulations and manufacturing practices as well as the Company's own high quality standards. Any product/product candidate, however, will require technically complex manufacturing processes or require a supply of highly specialized raw materials. As a result of these factors, the production of any product/product candidate may be disrupted from time to time. The Company may also not be able to rapidly alter production volumes to respond to changes in future commercial sale or demand of a product. Poor manufacturing performance of third party manufacturers, a disruption in the supply or the Company's failure to accurately predict the demand for any future commercial sale of a product could have a significant adverse effect on the Company's business, financial condition or results of operations. In addition, because the Company's products are intended to promote the health of patients, any supply disruption could lead to allegations that the public health has been endangered and could subject the Company to lawsuits.

#### **1.2.11. Risk related to disputes and liability claims**

The Company may from time to time be involved in disputes and/or legal actions that may result in significant losses and/or expenses for the Company and its operations. No guarantees can be made that the Company will be successful in any disputes, legal actions or disagreements with third parties.

The Company faces inherent risks of liability claims in the event that the use or misuse of the products may result in personal injury or death. As the Company is a newly established entity, it has not experienced any clinical trial liability claims to date, but it may experience such claims in the future. Any such claims against the Company, regardless of their merit, may materially and adversely affect the Company's financial position, due to adhering litigations and the strains these may pose on the Company's financial resources, time and management attention.

#### **1.2.12. Risk related to future pharma production – the Company operates in a highly competitive industry**

Prior to the Company entering into the pharmaceutical market, IPR handling, up scaling of manufacturing and partnership with experienced pharmaceutical commercial partners must be in place. The pharmaceutical industry is highly competitive, and the Company may not be able to compete effectively, which may result in others discovering,

developing or commercializing products before or more successfully than the Company. Other companies may have significantly greater resources than the Company, for example, in the areas of research and development, regulatory compliance, manufacturing, marketing, finance and management, and may, therefore, represent significant long-term competition. Business combinations or arrangements between competing pharmaceutical companies or healthcare companies could enhance such competitors' financial, marketing and other resources. Competitors that are able to complete clinical trials and obtain required approvals, and commence commercial sales of their products more efficiently and timely than the Company can, will enjoy a significant competitive advantage.

In the long-term the Company expects to face competition from lower-cost generic products. The Company's drug candidates are or are expected to be protected by patent rights that are expected to provide the Company with exclusive marketing rights in various countries. However, patent rights are of varying strengths and durations. Loss of market exclusivity and the introduction of a generic version of the same or a similar drug typically results in a significant and sharp reduction in net sales revenues for the relevant product, given that generic manufacturers typically offer their versions of the same drug at sharply lower prices. The Company's results may be affected by changes in public sentiment.

#### **1.2.13. Risk related to attraction and retention of key employees**

The Company and its operations are highly dependent on retention of and performance by key employees and management, and engagement of qualified expert consultants. If the Company fails to retain or replace key employees and management, or carry on consultancy engagements, the Company may encounter delays or other negative effects of its operations. The Company has recently been incorporated with a new transitional Board and a transitional management team. The long-term Board and management team is not yet in place.

#### **1.2.14. New Board of Directors**

No guarantee can be given that the new Board of the Company will decide to continue the strategy or business plan as proposed by the Board of Directors in NattoPharma, either in full or in part. Hence, there is a clear risk that significant parts of this Offering Memorandum may be rendered irrelevant to the Company's future business and operations. No assurance can be given that any revised strategy will be successful.

### **1.3. Financial risks**

#### **1.3.1. Risks related to the current financial situation**

Investing in the Company, including the Offer Shares, involves a risk as the Company depends on a successful completion of the Private Placement to obtain sufficient working capital for the initial period of 3 to 9 months. If the completion of the Private Placement for any reasons is significantly delayed, e.g. as a consequence of overdue payments by subscribers, the Company will risk running out of working capital and consequently face the risk of financial distress.

#### **1.3.2. Ability to satisfy liquidity requirements and to finance future operations**

The proceeds of the Private Placement are not sufficient to fund the Company until a commercial stage has been reached. It must be expected that the Company will require additional funding in the future e.g. due to lower revenues than expected or higher costs than anticipated, pursuance of new business opportunities or due to unforeseen liabilities or investments. No guarantee can be given that the Company will be able to raise the required capital, either as equity and/or debt capital, at acceptable terms and within the required time frame.

Each shareholder of the Company who is not able to participate in future equity offerings, will face the risk of dilution.

#### **1.3.3. Exchange rate risk**

The Company aims to operate in several countries. Contracts may be entered into in local currencies and currency fluctuations may result in adjusted revenue in NOK for foreign projects. A major part of future expected earnings is

denominated in EUR and USD. For the Company, NOK is the reporting currency and the currency in which the share price is denominated. As revenues may be based on foreign currencies while considerable parts of the costs are based in NOK, a sharp price appreciation of the NOK towards the trading currencies will have an impact on short-term and long-term earnings if not actively countered by successful hedging activities.

#### **1.3.4. Taxation risks**

The Company's activities will to a large extent be governed by the fiscal legislation of the jurisdictions where it is operating, as its activities in most cases will be deemed to form a permanent establishment according to the tax laws of those countries. Thus, the Company is exposed to a material risk regarding the correct application of the tax regulations as well as possible future changes in the tax legislation of those relevant countries. Changes in fiscal or tax legislation applicable to the Company may affect the Company's operations, revenues and profits.

### **1.4. Risks related to the Shares**

#### **1.4.1. No organized market for the Shares**

There are no restrictions on the transferability of the Shares, but the Shares in the Company are not currently listed at any organized market. The current Board intends to assess the potential for a listing of the Shares in due time, but no assurance can be given that the Shares will actually become listed. Irrespective of whether the Shares become listed or not, no assurance can be given that an active trading market for the Shares will develop or be sustained. Shareholders of the Company may therefore be unable to realize their investment in the Company.

#### **1.4.2. Volatility of the share price**

The market value of the Shares can fluctuate and may not always reflect the underlying asset value of the Company. A number of factors outside the control of the Company may have an impact on its performance and the price of the Shares. Such factors include the operating and share price performance of other companies in the industry and markets in which the Company operates, speculation about the Company's business in the press, media or investment community, changes to the Company's profit estimates, the publication of research reports by analysts and general market conditions.

#### **1.4.3. Ability to pay dividends**

The ability of the Company to pay dividends on the Shares is dependent upon the availability of distributable reserves. However, given the Company's financial situation and that it is in a growth phase, it does not expect to pay dividends the next few years.

#### **1.4.4. Limitation of ability to make claims against the Company**

The Company is a private limited liability company incorporated under the laws of Norway. The rights of holders of Shares are governed by Norwegian law and by the articles of association. These rights might differ from the rights of shareholders in other jurisdictions. In particular, Norwegian law limits the circumstances under which shareholders of Norwegian companies may bring derivative actions. Under Norwegian law, any action brought by the Company in respect of wrongful acts committed against the Company takes precedent over actions brought by shareholders in respect of such acts. In addition, it may be difficult to prevail in a claim against the Company under, or to enforce liabilities predicated upon, securities laws in other jurisdictions.

#### **1.4.5. Share issues and sales of Shares effect on market price of Shares**

The Company has resolved to carry out the Private Placement, and may decide to offer additional Shares in the future. An additional offering or a significant sale of Shares by any of the Company's major shareholders could have an adverse effect on the market price of the outstanding Shares.

#### **1.4.6. Potential share capital dilution**

The Company will require additional capital in the future to finance its business activities and growth plans. Specifically, the Board of Directors expects to initiate a new equity offering during the first half of 2018. The issuance of new Shares in order to raise such additional capital, or as means of honoring options or warrants, may have a dilutive effect on the ownership interests of the shareholders of the Company at that time.

#### **1.4.7. Enforceability of civil liabilities**

The Company is organized under the laws of Norway. It may be difficult for investors in other jurisdictions to effect service of process within other jurisdictions upon the Company or the Company's directors and executive officers and to enforce against the Company or its directors and executive officer's judgments obtained in non-Norwegian courts.

#### **1.4.8. Exercise of voting rights for nominee shareholders**

Beneficial owners of Shares that are registered in a nominee account (e.g. through brokers, dealers or other third parties) may not be able to vote for such shares unless their ownership is re-registered in their names with the VPS prior to the Company's general meetings. There can be no assurance that beneficial owners of the Company's shares will receive the notice of a general meeting in time to instruct their nominees to either effect a re-registration of their shares or otherwise vote for their shares in the manner desired by such beneficial owners.

## 2. STATEMENT OF RESPONSIBILITY

The Board of Directors of the Company confirms that, after having taken all reasonable care to ensure that such is the case, the information contained in the Offering Memorandum is, to the best of their knowledge, in accordance with the facts and contains no omission likely to affect its import.

Oslo, 28th of November 2017

The Board of Directors of PharmaCo AS

Frank Bjordal  
Board member  
(sign)

Kjetil Ramsøy  
Chairman of the Board  
(sign)

## 3. THE PRIVATE PLACEMENT

### 3.1. The Private Placement

#### 3.1.1. Overview

The Private Placement consists of an offer by the Company to issue 1,925,243 Offer Shares at a Subscription Price of NOK 5.0 per Offer Share, thereby raising gross proceeds of NOK 9,626,215. The Private Placement is fully underwritten, and all Offer Shares will thus be subscribed and issued.

The NattoPharma Investors will have a preferential right to subscribe for and be allocated one Offer Share per 10 shares registered as held in NattoPharma on the Record Date. Synergia will have a preferential right to subscribe for and be allocated one Offer Share per 10 shares held in NattoPharma as of 24 November 2017 (although not registered in the VPS). The Employee Investors will have the preferential right to subscribe for and be allocated one Offer Share per 10 shares held in NattoPharma as of 24 November 2017 through vested share options. Oversubscription will be permitted.

DNB Aksjonærservice will assist the Company in executing the Private Placement and process the incoming subscription forms on behalf of the Company, and is hereinafter referred to as the Receiving Agent.

No expenses or taxes will be charged by the Company or the Receiving Agent to the subscribers in the Private Placement.

#### 3.1.2. Reasons for the Private Placement and use of proceeds;

The Company has recently acquired the intellectual property and other related assets of NattoPharma's pharma business (i.e. the development of a vitamin K2 pharma product based on MenaQ7 PURE). Following this Transaction, the Company will work towards developing a vitamin K2 pharma product based on MenaQ7 PURE, as further described in Section 4 "PRESENTATION OF PHARMACO". In order to commence such a process of implementing the Company's pharma-strategy, the Company's working capital position must be improved.

On the basis of the above, the Board and the current sole shareholder of the Company, NattoPharma, wishes to strengthen the Company's equity position through the Private Placement, by raising gross proceeds of up to NOK 9,626,215 through issuance of up to 1,925,243 Offer Shares, each at a Subscription Price of NOK 5.0.

The net proceeds of the Private Placement are expected to be approximately NOK 9.0 million after deduction of expenses of approximately NOK 0.6 million. The expenses consist of fees to auditor, lawyer and other consultants.

PharmaCo intends to use the net proceeds to initial preparations to enter into the pharmaceutical market and for general corporate purposes. Each Eligible Investor should be aware that development of a pharma product requires significant capital expenditures, and that the Company will require additional capital following the completion of the Private Placement.

#### 3.1.3. Resolution to issue the Offer Shares

On 28 November 2017, the extraordinary ordinary general meeting of the Company passed the following resolution to increase the share capital of the Company (translated from Norwegian language):

- i. The share capital is increased from NOK 30,000 by NOK 1,925,243 to NOK 1,955,243 by subscription of 1,925,243 new shares with a nominal value of 1.0 per share, at a subscription price of 5.0 per share. The total subscription amount is NOK 9,626,215.
- ii. The shares may be subscribed by the persons and companies set out in Schedule 1 to the minutes of the general meeting (the "Eligible Investors"), consisting of (i) the shareholders of Nattopharma ASA as of the end of 24 November 2017, (ii) Synergia Life Sciences Pvt. Ltd., and (iii) certain employees of Nattopharma

holding vested share options. Each Eligible Investor may subscribe 1 share per 10 shares/options held in Nattopharma ASA as of 24 November 2017. Oversubscription shall be allowed.

- iii. The current shareholders' preferential rights shall be disregarded.
- iv. The Company has established an underwriting syndicate whereby the participants have undertaken to subscribe and pay for an amount of NOKM 10 in the Private Placement, only limited by oversubscription. Because of this, the Private Placement is guaranteed fully subscribed and paid up.
- v. The subscription period commences on 29 November 2017 09.00 hours (CET) and ends on 12 December 2017 13.00 hours (CET).
- vi. The due date for payment of the new shares is 13 December 2017. Subscribers which have a Norwegian bank account shall, through completion of the subscription form, give DNB Aksjonærservice an irrevocable one time authorization to debit a specified bank account in a Norwegian bank for the amount to be paid for the new shares allocated to the subscriber. At the date of allocation, the subscription amount will be debited from the subscriber's bank account. The debit will be made on or about the payment date, 13 December 2017.
- vii. The new shares shall in all matters rank pari passu with the existing shares in the company and hold full shareholder rights in the company, including the right to dividends, from the date of registration of the share capital increase in the Norwegian Register of Business Enterprises.
- viii. The board is authorised to amend the articles of association article 4 to reflect the new share capital and number of shares following the share capital increase.
- ix. The cost relating to the capital increase is estimated to approximately NOK 600,000. The costs shall be paid by the company. No commission or fee is paid to the underwriting syndicate.

#### **3.1.4. Conditions for completion of the Private Placement and withdrawal of the Private Placement**

The completion of the Private Placement is subject to the following conditions: (i) that the total number of Offer Shares is subscribed (i.e. 1,925,243 Offer Shares), (ii) that the subscription amount is fully paid-up, and (iii) registration of the share capital increase in the Norwegian Register of Business Enterprises.

If the Private Placement is not completed, the Company will publish a press release in this respect and inform all subscribers.

#### **3.1.5. Timetable for the Private Placement**

The timetable set out below provides certain indicative key dates for the Private Placement:

Last day of trading in the NattoPharma Shares including the right to participate in the Private Placement	24 November 2017
First day of trading in the NattoPharma Shares excluding the right to participate in the Private Placement	27 November 2017
Record Date	28 November 2017
Subscription Period commences	29 November 2017 at 09:00 hours (CET)
Subscription Period ends	12 December 2017 at 13:00 hours (CET)
Allocation of the Offer Shares	Expected on or about 13 December 2017
Distribution of allocation letters	Expected on or about 12 December 2017
Payment Date	Expected on or about 13 December 2017
Issuance of Offer Shares	Expected on or about 21 December 2017
Delivery of the Offer Shares	Expected on or about 21 December 2017

#### **3.1.6. Subscription Price**

The Subscription Price in the Private Placement is NOK 5.0 per Offer Share.

The Subscription Price represents the book value of equity in the Company.

### **3.1.7. Subscription Period**

The Subscription Period will commence on 29 November 2017 at 09:00 hours (CET) and end on 12 December 2017 at 13:00 hours (CET). The Subscription Period will neither be extended nor shortened.

### **3.1.8. Record Date for NattoPharma Investors**

Shareholders of NattoPharma as of the end of 24 November 2017, as registered in NattoPharma's shareholder register in the VPS as of the Record Date (28 November 2017) (i.e. the NattoPharma Investors) will have a preferential right to subscribe for and be allocated one Offer Share per 10 shares held in NattoPharma on the Record Date.

Provided that the delivery of traded NattoPharma shares was made with ordinary T+2 settlement in the VPS, NattoPharma shares that were acquired on or before 24 November 2017 will give the right to participate in the Private Placement, whereas NattoPharma shares that were acquired from and including 27 November 2017 will not give the right to participate in the Private Placement.

### **3.1.9. Participation by Synergia and Employee Investors**

Synergia will have a preferential right to subscribe for and be allocated one Offer Share per 10 shares held in NattoPharma as of 24 November 2017 (although not registered in the VPS). Synergia subscribed for 560,000 new shares in NattoPharma in a private placement resolved by the general meeting of NattoPharma on 24 November 2017. Synergia will thereby hold the preferential right to subscribe for and be allocated 56,000 Offer Shares.

The Employee Investors will have a preferential right to subscribe for and be allocated one Offer Shares per 10 vested share options as of 24 November 2017. The Employee Investors will hold the preferential right to subscribe for and be allocated 112,250 Offer Shares.

### **3.1.10. Subscription procedures**

Subscriptions for Offer Shares must be made by submitting a correctly completed Subscription Form to the Receiving Agent during the Subscription Period, as further described below.

Subscriptions shall be made by completing the form included in Appendix 1 "Subscription Form for the Private Placement".

Correctly completed Subscription Forms must be received by the Receiving Agent no later than 13:00 hours (CET) on 12 December 2017 at the following address by the means of post, delivery or e-mail:

DNB Registrars Department  
P.O. Box 1600 Sentrum  
N-0021 Oslo  
Norway  
E-mail: retail@dnb.no

The Company will not be held responsible for postal delays, internet lines or servers or other logistical or technical problems that may result in subscriptions not being received in time or at all. Subscription Forms received after the end of the Subscription Period and/or incomplete or incorrect Subscription Forms and any subscription that may be unlawful may be disregarded at the sole discretion of the Company without notice to the subscriber.

Subscriptions are binding and irrevocable, and cannot be withdrawn, cancelled or modified by the subscriber after having been received by the Receiving Agent. The subscriber is responsible for the correctness of the information filled into the Subscription Form. By signing and submitting a Subscription Form, the subscribers confirm and warrant that they have read this Offering Memorandum, or alternatively confirm and warrant that the Offering Memorandum has been made available to them and that the subscriber has voluntarily chosen not to read the



Offering Memorandum, and are eligible to subscribe for Offer Shares under the terms set forth herein and in the Subscription Form.

There is no minimum subscription amount for which subscriptions in the Private Placement must be made. Oversubscription (i.e., subscription for more Offer Shares than the number of Offer Shares each Eligible Investor holds preferential rights to) will be permitted. However, there can be no assurance that Offer Shares will be allocated for oversubscriptions.

Multiple subscriptions (i.e., subscriptions on more than one Subscription Form) are allowed. Please note, however, that two separate Subscription Forms submitted by the same subscriber with the same number of Offer Shares subscribed for on both Subscription Forms will only be counted once unless otherwise explicitly stated in one of the Subscription Forms.

### **3.1.11. Mandatory anti-money laundering procedures**

The Private Placement is subject to the Norwegian Money Laundering Act No. 11 of 6 March 2009 and the Norwegian Money Laundering Regulations No. 302 of 13 March 2009 (collectively, the “Anti-Money Laundering Legislation”).

Subscribers who are not registered as existing customers of the Receiving Agent must verify their identity to the Receiving Agent in accordance with the requirements of the applicable Anti-Money Laundering Legislation, unless an exemption is available. Subscribers who have designated an existing Norwegian bank account and an existing VPS account on the Subscription Form are exempted, unless verification of identity is requested by the Company. Subscribers who have not completed the required verification of identity prior to the expiry of the Subscription Period will not be allocated Offer Shares.

Furthermore, participation in the Private Placement is conditional upon the subscriber holding a VPS account in order to facilitate delivery of the Offer Shares. The VPS account number must be stated in the Subscription Form. VPS accounts can be established with authorised VPS registrars, who can be Norwegian banks, authorised securities brokers in Norway and Norwegian branches of credit institutions established within the EEA. However, non-Norwegian investors may use nominee VPS accounts registered in the name of a nominee. The nominee must be authorised by the NFSA. Establishment of a VPS account requires verification of identification to the VPS registrar in accordance with the Anti-Money Laundering Legislation.

### **3.1.12. Financial intermediaries**

#### **General**

All persons or entities holding shares in NattoPharma through financial intermediaries (e.g., brokers, custodians and nominees) should read this Section 3.1.12. All questions concerning the timeliness, validity and form of instructions to a financial intermediary in relation to participation in the Private Placement should be determined by the financial intermediary in accordance with its usual customer relations procedure or as it otherwise notifies each beneficial shareholder.

The Company is not liable for any action or failure to act by a financial intermediary through which Shares are held.

#### **Preferential rights to participate in the Private Placement**

If an Eligible Investor holds shares in NattoPharma through a financial intermediary on the Record Date, the financial intermediary will, subject to the terms of the agreement between the Existing Shareholder and the financial intermediaries, customarily give the Existing Shareholder details of the aggregate number of Offer Shares to which it will hold preferential rights to subscribe and be allocated, and the relevant financial intermediary will customarily supply each Eligible Investor with this information in accordance with its usual customer relations procedures. Eligible Investors holding Shares through a financial intermediary should contact the financial intermediary if they have received no information with respect to the Private Placement.

## Subscription

Any Eligible Investor who holds its shares in NattoPharma through a financial intermediary and wishes to participate in the Private Placement, should instruct its financial intermediary in accordance with the instructions received from such financial intermediary. The financial intermediary will be responsible for collecting exercise instructions from such Eligible Investors and for informing the Receiving Agent of their instructions.

Investors with NattoPharma shares registered EuroClear Sweden must place subscriptions for Offer Shares through their Nominee bank in Sweden.

## Method of payment

Any Eligible Investor who holds shares in NattoPharma through a financial intermediary should pay the total Subscription Price for the Offer Shares that are allocated to it in accordance with the instructions received from the financial intermediary. The financial intermediary must pay the Subscription Price in accordance with the instructions in this Offering Memorandum. Payment by the financial intermediary for the Offer Shares must be made to the Receiving Agent no later than the Payment Date. Accordingly, financial intermediaries may require payment to be provided to them prior to the Payment Date.

### 3.1.13. Allocation of Offer Shares

Allocation of the Offer Shares will take place on or about 12 December 2017 in accordance with the following criteria:

- I. Allocation of shares to subscribers will be made in accordance with the preferential rights to subscribe for Offer Shares which have been validly exercised (i.e. through subscriptions) during the Subscription Period.
- II. If not all preferential rights are validly exercised in the Subscription Period, subscribers who have oversubscribed will be allocated additional Offer Shares on a pro rata basis in accordance with the number of preferential rights held by each Eligible Investors. If a pro rata allocation is not possible, the Company will allocate by drawing lots.
- III. Offer Shares which have not been allocated pursuant to item (a) to (b) above, will be subscribed by and allocated to the Underwriters, unless the Underwriters have already satisfied their respective underwriting obligation by subscribing Offer Shares in the Subscription Period, based on and in accordance with the respective underwriting obligations of the Underwriters.

Allocation of fewer Offer Shares than subscribed for by a subscriber will not impact on the subscriber's obligation to pay for the number of Offer Shares allocated.

The Company will not distinguish subscribers by which securities firm, if any, the subscription has been made through.

The result of the Private Placement is expected to be published on or about 12 December 2017 in the form of a stock exchange notification from NattoPharma through the Oslo Stock Exchange information system and at the NattoPharma's website ([www.nattopharma.com](http://www.nattopharma.com)). Notifications of allocated Offer Shares and the corresponding subscription amount to be paid by each subscriber are expected to be distributed in a letter on or about 12 December 2017.

PharmaCo's Shares and the Offer Shares will not be listed on a stock exchange for the time being. The Board will evaluate different listing alternatives on a later stage, and decide if or when the shares will be listed. No assurance can be given that the Shares of PharmaCo (including the Offer Shares) will become listed.

### **3.1.14. Payment for the Offer Shares**

#### **Payment due date**

The payment for Offer Shares allocated to a subscriber falls due on the Payment Date (on or about 13 December 2017). Payment must be made in accordance with the requirements set out in the section “Subscribers who have a Norwegian bank account” or “Subscribers who do not have a Norwegian bank account” below.

#### **Subscribers who have a Norwegian bank account**

Subscribers who have a Norwegian bank account must, and will by signing the Subscription Form, provide the Receiving Agent with a one-time irrevocable authorization to debit a specified bank account with a Norwegian bank for the amount payable for the Offer Shares which are allocated to the subscriber. Payment by direct debiting is only available for subscribers who are allocated Offer Shares for an amount below NOK 5,000,000.

The specified bank account is expected to be debited on or after the Payment Date. The Receiving Agent is only authorized to debit such account once, but reserves the right to make up to three debit attempts, and the authorization will be valid for up to seven working days after the Payment Date.

The subscriber furthermore authorizes the Receiving Agents to obtain confirmation from the subscriber’s bank that the subscriber has the right to dispose over the specified account and that there are sufficient funds in the account to cover the payment.

If there are insufficient funds in a subscriber’s bank account or if it for other reasons is impossible to debit such bank account when a debit attempt is made pursuant to the authorization from the subscriber, the subscriber’s obligation to pay for the Offer Shares will be deemed overdue.

Payment by direct debiting is a service that banks in Norway provide in cooperation. In the relationship between the subscriber and the subscriber’s bank, the standard terms and conditions for “Payment by Direct Debiting – Securities Trading”, will apply, provided, however, that subscribers who are allocated Offer Shares for an amount exceeding NOK 5,000,000 must contact the Receiving Agent for further details and instructions, and ensure that payment with cleared funds for the Offer Shares allocated to them is made on or before the Payment Date.

#### **Subscribers who do not have a Norwegian bank account**

Subscribers who do not have a Norwegian bank account must ensure that payment with cleared funds for the Offer Shares allocated to them is made on or before the Payment Date. Prior to any such payment being made, the subscriber must contact the Receiving Agents for further details and instructions.

#### **Overdue payments**

Overdue payments will be charged with interest at the applicable rate from time to time under the Norwegian Act on Interest on Overdue Payment of 17 December 1976 No. 100, currently 8.50% per annum. If the total Subscription Price payable by a subscriber is not settled at the Payment Date, the Underwriters will provide an advance payment for the total subscription amount payable by the relevant subscriber. The relevant subscriber will thereafter receive a notice from the Board stating that the total Subscription Price must be paid to the Company within seven days. If the subscriber has not paid the total Subscription Price within seven days after the date of such notice, the Board will allow one of the Underwriters or another Eligible Investor to subscribe those Offer Shares.

### **3.1.15. Delivery of the Offer Shares**

The Company expects that the share capital increase pertaining to the Private Placement will be registered in the Norwegian Register of Business Enterprises on or about 21 December 2017 and that the Offer Shares will be delivered to the VPS accounts of the subscribers to whom they are allocated on or about 21 December 2017. The final deadline for registration of the share capital increase pertaining to the Private Placement in the Norwegian Register of Business Enterprises, and, hence, for the subsequent delivery of the Offer Shares, is, pursuant to the

Norwegian Private Limited Companies Act, three months from the expiry of the Subscription Period (i.e. 12 March 2018).

The Offer Shares may not be transferred or traded before they are fully paid and said registration in the Norwegian Register of Business Enterprises and the VPS have taken place (expected to take place on or about 21 December 2017).

### **3.1.16. The rights conferred by the Offer Shares**

The Offer Shares will be ordinary Shares in the Company with a nominal value of NOK 1.0 each, and will be issued electronically through the VPS.

The Offer Shares will rank pari passu in all respects with the existing Shares of the Company and will carry full shareholder rights in the Company from the time of registration of the share capital increase pertaining to the Private Placement in the Norwegian Register of Business Enterprises which is expected to be on or about 21 December 2017. The Offer Shares will be eligible for any dividends which the Company may declare after said registration in the Norwegian Register of Business Enterprises, which is expected to be on or about 21 December 2017. All Shares, including the Offer Shares, will have voting rights and other rights and obligations which are standard under the Norwegian Private Limited Companies Act, and are governed by Norwegian law.

### **3.1.17. VPS Registration**

The Offer Shares will be registered in the VPS with the same International Securities Identification Number as the existing shares of the Company, being ISIN NO0010811755.

The Company's registrar in the VPS is DNB Bank ASA, Registrar Department, N-0021 Oslo, Norway.

### **3.1.18. Dilution**

The dilutive effect following the Private Placement assuming subscription of all Offer Shares represents an immediate dilution of approximately 55% for existing shareholder NattoPharma, who will not participate in the Private Placement, when taking into account the NOKM 8 in-kind contribution of new equity by NattoPharma as described in Sections 4.1.1. and 4.5.

Further dilution may occur for both Eligible shareholders and NattoPharma, as described in Sections 1.3.2. and 1.4.6., and as an effect of a 12-month authorization given to the Board of Directors 28 November 2017 to issue a maximum of 350,000 shares in connection with the implementation of a stock option plan for employees, board members and strategic partners.

### **3.1.19. The Private Placement Underwriting**

On 28 November 2017, an underwriting syndicate was established by the Company in order to secure that Offer Shares for an amount equal to the minimum subscription amount (i.e. NOK 9,626,215) are subscribed and paid for in the Private Placement and to secure that the Private Placement is completed within 21 December 2017. The Company and each of the Underwriters have entered into the Underwriting Agreement pursuant to which the Underwriters have undertaken, severally and not jointly, to subscribe and pay for Offer Shares for a total amount of NOK 9,626,215 (i.e. the subscription and payment of all 1,925,243 Offer Shares). The actual underwriting obligation of the Underwriters will be NOK 9,626,215 less the amount subscribed by other Eligible Investors. The table below shows the subscription amount each Underwriter has undertaken to subscribe and pay (underwriting commitment) and the amount each Underwriter has undertaken to make advance payments for Offer Shares for which payment is overdue (underwriting obligation):

<b>Name</b>	<b>Underwriting commitment</b>
Bohan & Co AS	NOK 2.5 million
Pro AS	NOK 2.5 million
Life Science Sweden AB	NOK 2.5 million
KG Investment Comp AS	NOK 2.5 million
<b>Total underwriting commitment</b>	<b>NOK 10.0 million</b>

The Underwriters are not entitled to a fee or provision for fulfilment of their respective underwriting obligations.

### **3.1.20. Net proceeds and expenses relating to the Private Placement**

The Company will bear the fees and expenses related to the Private Placement, which are estimated to amount to approximately NOK 0.6 million. The expenses are related to rendered services from the Company's auditor, lawyers and advisor Frank Bjordal. No expenses or taxes will be charged by the Company to the subscribers in the Private Placement.

Total net proceeds from the Private Placement are estimated to amount to approximately NOK 9.0 million. The net proceeds will be allocated to the Company's share capital and share premium reserve fund.

### **3.1.21. Publication of information relating to the Private Placement**

In addition to press releases which will be posted on the NattoPharma's website, the Company will use the Oslo Stock Exchange's information system to publish information relating to the Private Placement, since NattoPharma is a listed company and the Company's business area was previously part of NattoPharma's operation, and NattoPharma is a substantial shareholder in the Company.

### **3.1.22. Governing law and jurisdiction**

This Offering Memorandum, the Subscription Form and the terms and conditions of the Private Placement shall be governed by and construed in accordance with, and the Offer Shares will be issued pursuant to, Norwegian law. The Company has been incorporated under the Norwegian Private Limited Liability Companies Act and all legal matters relating to the shares of the Company will primarily be regulated by this act. Any dispute arising out of, or in connection with, this Offering Memorandum, the Private Placement, shall be subject to the exclusive jurisdiction of the courts of Norway, with Oslo District Court as legal venue.

## 4. PRESENTATION OF PHARMACO

### 4.1. Overview

PharmaCo is a Norwegian limited liability company organized under the Norwegian Limited Liability Companies Act, with business registration number 919 864 559. The Company's registered office is at Lilleakerveien 2B, 0283 Oslo, Norway, and its telephone number is +47 4000 9008. The legal and commercial name of the Company is PharmaCo AS.

#### 4.1.1. New corporate structure

PharmaCo AS will be a stand-alone entity, with no directly owned or affiliated entities in the structure.

PharmaCo AS will initially be owned by NattoPharma, and following the Private Placement by NattoPharma and the Eligible Investors who subscribed for and were allocated Offer Shares. PharmaCo will be operated by a separate Board of Directors and management team.

The Company was established to be able to spin-off all the pharmaceutical business already in NattoPharma into a new legal entity. All pharmaceutical know-how and patents are expected to be transferred to PharmaCo in December 2017 through the Transaction. NattoPharma's patent related to synthetic production of vitamin K2 will not be transferred to PharmaCo in this initial Transaction, as this patent is used in the current production of vitamin K2 for the supplement business remaining in NattoPharma. However, the Parties intent is to make this patent available for the Company through a licensing agreement if and when the Company has use for that patent.

The Transaction values the pharmaceutical assets as a combined package to NOKM 65.5. NOKM 8 will be settled through an in-kind contribution of new equity and the remaining NOKM 57.5 to be settled through a seller credit. This Transaction gives PharmaCo book valued equity of NOKM 8.0 and debt of NOKM 57.5. The seller credit will be repaid to NattoPharma over 7 years based on specific criteria, set out in the Transaction agreement.

### 4.2. Business model and strategy

PharmaCo will work towards the development of a pharmaceutical product based on vitamin K2, and will in this respect focus on entering an industrial and strategic cooperation with bigger pharmaceutical companies. The aim of such cooperation is to reduce costs and risks, and increase the ability to launch vitamin K2 as a pharmaceutical product. One typical model under evaluation is for the larger pharmaceutical partner to finance a significant portion of the investments in new studies and regulatory work, while PharmaCo will focus on project management, intellectual property development and initiation of new indication areas. Cash flow for the licensing entity will typically come from a combination of a sign on fee, milestone payments and royalty when (and if) the drug is introduced to the market place.

NattoPharma is currently in discussions with several prospective candidates that potentially could function as an industrial and strategic partner, however no assurance can be given that the Company will be able to enter into an industrial and strategic cooperation with a larger pharmaceutical company. Should the possibility of a partnership open, the Board of Directors will contemplate offering ownership in PharmaCo if this is deemed commercially reasonable for PharmaCo. Such a structure will increase the pharma momentum and intensify work on the detailed planning and preparation of the next step of the pharmaceutical compound development.

As the Company will require additional funding in order to execute its strategy, the Board of Directors expects to initiate a new equity offering during the first half of 2018.

### 4.3. Board of Directors and management

The Board of Directors in NattoPharma has initiated a process using a Search & Select agency to identify candidates to the Board of Directors in PharmaCo. This is expected to be completed within the next 1 to 2 months, and the Company will have an interim Board of Directors in the period until this process is finalized.

The new Board of Directors will then start immediately to put together an independent management team. Until a permanent management team is in place, expected to happen within 3-6 months, the current CEO, CFO and CMO in NattoPharma will work hand in hand with the new Board of Directors.

To oversee the spin-off and first round of capitalization, the following will be the transitional Board of Directors:

#### Chairman, **Kjetil Ramsøy**

A Certified Public Accountant, Kjetil Ramsøy has served in several senior financial positions within the power supply industry, as well as the oil service industry. Having worked in both Scandinavia and the United States, he brings experience from both global and publicly listed companies to NattoPharma.

#### Board Member, **Frank Bjordal**

A Master of Science & Economics and Business & Administration (Siviløkonom), Bjordal has experience as previous Board member in NattoPharma. He has also served as CEO in Eqology and CFO in brødboksen.no and P4 Radio Hele Norge, and associate in Handelsbanken Markets and KPMG. Bjordal bring experience from consumer marketing, investor relations, finance and structuring.

As with the Board of Directors, PharmaCo has initiated a process to search for new permanent management. In the transitional period the following will constitute the Company's management:

#### Chief Executive Officer, **Daniel Rosenbaum**

Dan Rosenbaum steers the ship with his extensive experience in strategy development and implementation, general management, finance, and business development. A senior leader with global, multi-cultural background and experience, he has a successful track record of driving operational excellence and building motivated, high-performance organizations.

#### Chief Financial Officer, **Kjetil Ramsøy**

Please see paragraph section above.

#### Chief Medical Officer, **Hogne Vik**

A medical doctor by training, Dr. Hogne Vik has more than 30 years of experience in medical, pharmaceutical, dietary supplement, and research industries. He actively engages with the industry to enhance the understanding of the benefits NattoPharma's technologies offer for human health.

#### Vice President Global Development & Regulatory, **William Sommer**

Leading NattoPharma's R&D Solutions Division, William Sommer has more than 20 years of experience working on product and application development and manufacturing in regulated specialty chemical industries.

### 4.4. Capital resources and further financing

#### 4.4.1. Working capital position

Immediately after its incorporation, the Company will have insignificant cash. Through the Private Placement, the Company plan to improve the cash balance with NOKM 9.6 in gross proceeds. The objective of the Private Placement is to bring in the first working capital for the Company and additional capital will be needed in order to pursue the Company's strategies and objectives. How long the proceeds from the Private Placement will last, is too early to

conclude. However, it is expected that the proceeds will move the Company forward at least until 3rd Quarter of 2018.

#### **4.4.2. Funding structure**

The Board plan to initiate a new funding process in the first half of 2018. The Board has not yet concluded on how much capital it will target through this transaction.

The Company will have loan liabilities of NOKM 57.5 to NattoPharma, following completion of the Transaction as NOKM 57.5 of the Transaction consideration shall be settled through grant of a seller credit. The seller credit shall be settled over the course of seven years, with no regular down payment in 2018, and with 1/6 of the outstanding amount each year thereafter. In addition, the Company successfully execute one or more equity offerings and/or receives any cash flow from a contractual pharma partner during 2018, 2019 and 2020, NattoPharma should receive 20% of the gross proceeds, as extraordinary down payment of the loan, however limited to NOKM 10 each year. The interest rate is 5% p.a.

#### **4.5. Selected financial information**

PharmaCo AS is incorporated as a Norwegian Limited Liability Company (AS), with NOK 30,000 in initial share capital, consisting of 30,000 shares with a nominal value of NOK 1.0 per share.

In connection with the Private Placement, the Company will issue 1,925,243 Offer Shares at the Subscription Price of NOK 5.0 per Offer Share, of which NOK 1.0 per Offer Share will be assigned to share capital and NOK 4.0 per Offer Share will be assigned to share premium.

In the Transaction, PharmaCo will acquire NattoPharma's pharma business. The pharma business has been subject to a separate valuation, and the purchase price for this corresponds to NOKM 65.5, of which NOKM 8 will be settled through an in-kind contribution in exchange for new Shares corresponding to an increase in share capital of NOKM 1.6 and an increase of share premium with NOKM 6.4. The remaining part of the purchase price in the Transaction will be settled through grant of a seller credit.

After completion of the Private Placement and the in-kind contribution under the Transaction, PharmaCo will have a balance sheet consisting of an asset related to the pharma business of NOKM 65.5, cash deposits of approx. NOKM 9.7. Equity will be approximately NOKM 17.7 and a debt to NattoPharma of NOK 57.5.

#### **4.6. Shareholders**

As of today, NattoPharma own and controls the Company 100%. After the Private Placement, NattoPharma will own 45.9% of PharmaCo.

#### **4.7. Listing strategy**

The Company intends to initiate a new equity offering in the first half of 2018. Following such equity offering, the Board will evaluate whether or not to seek a listing of the Company's Shares on a stock exchange or other organized marketplace, or continue as a private company.

#### **4.8. From dietary supplement to a pharmaceutical product**

NattoPharma has aggressively pursued intellectual property, resulting in a global patent portfolio that provides it exclusive rights to practice in usage around areas of cardiovascular disease treatment and in drug substance manufacturing. NattoPharma has secured patents covering key usage of MK7 and all Vitamin Ks in the relevant target area of use and has been granted claims that cover broad range of product options and usage that provide options



and assurance of coverage of the final determined drug product as well as provide barriers of entry to potential substitutes. Intellectual property, initially pursued by NattoPharma and with direct application in the pharmaceutical segments will be transferred to and owned by the Company following completion of the Transaction. Key patent ownership will be transferred to PharmaCo and licensed back as a “right to use” for NattoPharma to use in the supplement business. Ongoing IP building activities will also be transferred to PharmaCo.

The Company will continue to fund further research and develop key partnerships that show promise to extend existing patent family life and expand to additional patent families so as to provide long-term exclusivity on the drug use. Furthermore, PharmaCo will have access to formed key partnerships to access third party IP and technology to enable proprietary performance solutions around the drug substance and product delivery.

Key patents (to be transferred to PharmaCo following completion of the Transaction) have been granted in areas of cardiovascular disease treatment using Vitamin K, that both provides exclusivity of use for use of MK7 as well as barriers of use of any potential substitutes alternate Vitamin Ks. These patents cover the prevention and treatment stiffening of arteries; and the reduction or reversal of calcification, resulting in the prevention of cardiovascular disease. Please see below for an overview of the key patents.

COUNTRY	APP. NO.	PATENT NO.	TITLE	STATUS
<b>United States</b>	US 11/144,853	US 9,364,447	Compositions for treating or preventing cardiovascular disease	Patent
<b>Europe<sup>1</sup>:</b> (Austria, Belgium, Denmark, Finland, France, Germany, Hungary, Italy, Ireland, Netherlands, Spain, Sweden, Switzerland, Turkey, United Kingdom)	EP 03790959.5	EP 1556025	Compositions comprising vitamin k for preventing hypertension, left ventricular hypertrophy, congestive heart failure, myocardial infarction, stroke and coronary heart disease by preventing age-related stiffening of arteries	Patent
<b>Europe:</b> (Austria, Belgium, Check Republic, Denmark, Finland, France, Germany, Italy, Ireland, Netherlands, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom)	EP 06076172.3	EP 1728507	Use of vitamin k for reversing of calcification of blood vessels	Patent
<b>United States</b>	US 15/151,970	N/A	Compositions for treating or preventing cardiovascular disease - divisional application	Pending

Table 1 : Key Patents covering use for treatment in cardiovascular diseases

Patents have been granted or are pending covering solo formulation products as well as key combinations that would be desirable for cardiovascular health. These patents expand drug product options and provide levels of barriers to potential substitutes. Further, they add to prevent potential patents that may restrict the Company’s use in the future.

APP. NO.	PATENT NO.	TITLE	STATUS
EP 03790959.5	EP 1556025	Compositions comprising vitamin k for preventing hypertension, left ventricular hypertrophy, congestive heart failure, myocardial infarction, stroke and coronary	Patent

<sup>1</sup> Permission has been granted to Kappa Biosciences to reference this patent in Europe

		heart disease by preventing age-related stiffening of arteries	
US 11/144,853	US 9,364,447	Compositions for treating or preventing cardiovascular disease	Patent
US 15/151,970	N/A	Compositions for treating or preventing cardiovascular disease - divisional application	Pending
NO 20090692	N/A	Pharmaceutical and nutraceutical products comprising vitamin k2 (Nw: <i>Farmasøytiske og kostholdsprodukter som omfatter vitamin K2</i> )	Pending
AU 2007271900	AU 2007271900	Pharmaceutical and nutraceutical products comprising vitamin k2	Patent
CA 2657748	CA 2657748	Pharmaceutical and nutraceutical products comprising vitamin k2	Patent
JP 2009-519843	JP 5827784	Pharmaceutical and nutraceutical products comprising vitamin k2	Patent
NZ 574882	NZ 574882	Pharmaceutical and nutraceutical products comprising vitamin k2	Patent
EP 07765188.3	N/A	Pharmaceutical and nutraceutical products comprising vitamin k2	Pending
US 12/373,601	N/A	Pharmaceutical and nutraceutical products comprising vitamin k2	Pending
EP 06076172.3	EP 1728507	Use of vitamin k for reversing of calcification of blood vessels	Patent
US 09/850,804	US 8,354,129	Vitamin containing product	Patent
US 13/710,601	US 8,728,553	Vitamin containing product	Patent
CA 2347387	CA 2347387	Vitamin k2 containing food product	Patent

Table 2 : Granted and Pending Patents containing product composition claims

As research continues following completion of the Transaction, the Company expects to expand its patent portfolio, including providing patent life extension to current patent families.

## 4.9. PharmaCo's pharmaceutical development program

### 4.9.1. History and current status

NattoPharma has, over time, built key components and exclusivity for its pharmaceutical development program through key acquisitions, partnerships, directed research efforts and published records to;

- Increase likelihood of success of developing a commercial drug
- Have exclusivity on use of MK7 as a drug
- Reduce development cost

The Company's knowledge of vitamin K and involvement in research will enable it to increase the likelihood of success and reduce the overall cost of developing a drug based on vitamin K2.

The Company's knowledge of vitamin K and access to vitamin K research is based upon a long-standing relationship and collaboration with leading experts within the field of vitamin K. For the last decade, entrepreneurs in NattoPharma have known and worked with experts such as Cees Vermeer, PhD in VitaK and Associate Professor Leon Schurgers, PhD of CARIM, University of Maastricht and continues to expand relationships with other key researches and influencers globally.

The Company will, following completion of the Transaction, work to form new partnership agreements with predominant academic institutions and experts in the area of Vitamin K, initiated early in the research of

understanding of the molecule, to enable it to stay in the forefront of scientific knowledge, capture and create intellectual property on the use of MK7 in areas relevant to its use as a pharmaceutical drug.

The Company will supply study test material to several human pre-clinical trials with MenaQ7 with direct relevance toward the area of indication intended to be developed. In these human trials, correlations between MK7 and cardiovascular endpoints are measured. There are currently four key trials ongoing that are directly relevant to cardiovascular outcomes of interest. In addition to recognition in the scientific and medical community as the supplier of the drug, the Company has access to information prior to publication that enables it to expedite its development program.

The Company will also supply study components to several early pre-clinical trials investigating novel areas of treatment.

The Company, will following completion of the Transaction, sponsor specific studies that provide it knowledge and intellectual property, and provides key sponsorship to advance the knowledge of Vitamin K2 as an expert in the field. Recent examples include NattoPharma's award as a partner in two independent Horizon 2020 grants. This also facilitates access to related industry leading partners.

The Company provides internal investigation and external partnerships for physiochemical property knowledge and best practices of formulation solutions to enhance performance.

The overall result is that all the knowledge within and accessible to PharmaCo will allow it to:

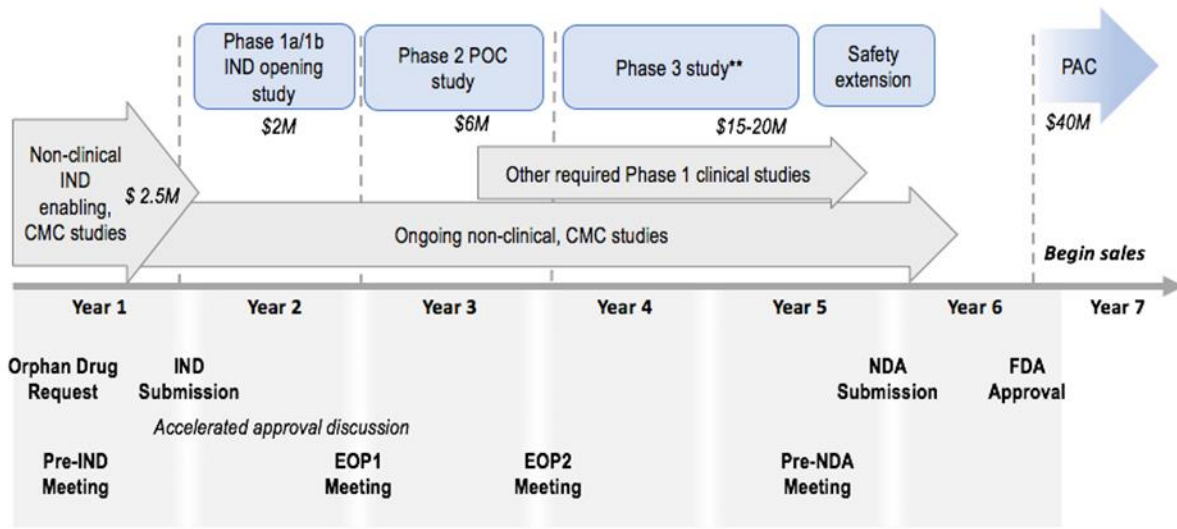
- Make wiser choices and reduce the number of screening trials, thus reducing development effort and cost.
- Use many of the studies conducted to provide indication of expected results, and the positive findings obtained to date to increase the likelihood of success of the pharmaceutical development program.
- Remain leader in vitamin K2, with IPR and knowledge ahead of any other competitor and for long-term growth.

#### **4.9.2. PharmaCo's path to an approved drug product**

The regulatory path from initial application to marketing approval is both complex and costly. Timelines can span from as little as 5 years to over 10 years. There are several strategies that management believes it can exploit to shorten the timeline and potentially de-risk certain steps of the process. The Company estimates that for the two initial indications the registration timelines can be achieved in the 6 to 7-year timeframe.

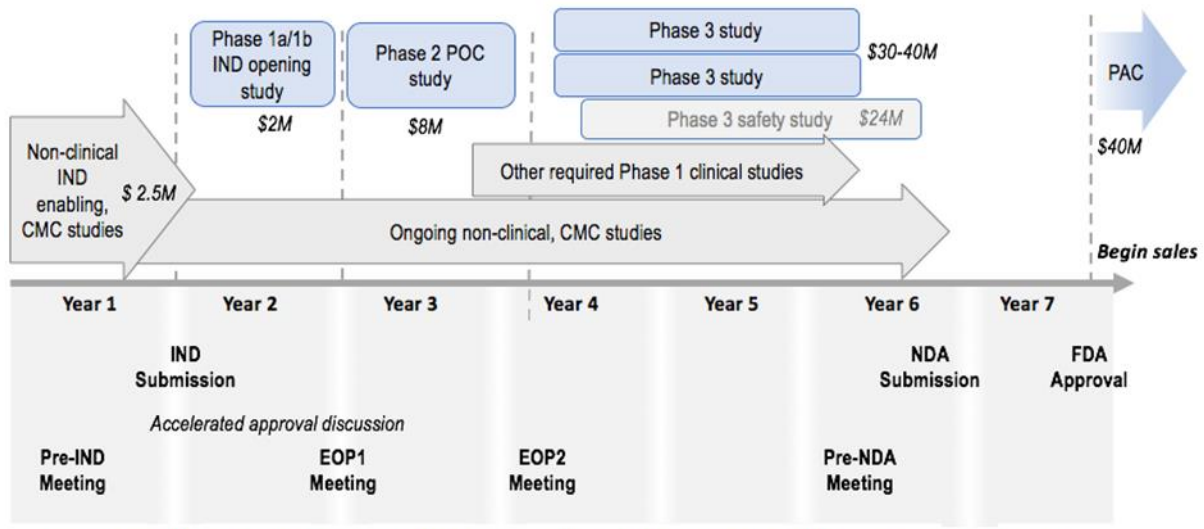
The development paths will be organized around specific milestones, and sequenced such that the larger spending commitments will occur at the later stages of the process and with the benefit of significant confirmatory clinical data. This approach will have the effect of de-risking to total project investment. The total investment including the work leading up to the investigative new drug ("IND") submission and the ultimate marketing authorization (approval) can vary widely, depending on study outcomes, treatment designations and specific requests from regulatory authorities. The Company estimates that the investment for each of the two initial indications, up until marketing authorization, ranges on the low end from USD 30 million up to USD 60 million. In both cases, the Company assumes that an additional post-approval confirmatory study will need to be conducted following the marketing authorization and in parallel with actual commercialization and sales. This larger, post-approval confirmatory study is estimated to cost between USD 40 and 50 million.

Two summaries of the Vitamin K2 development pathway are shown below, representing examples within the ranges outlined:



EOP= End of Phase; FDA = Food and Drug Administration; IND = Investigative new drug; NDA = New Drug Application; PAC = Postapproval confirmatory study.

Figure 1 : Development and Registration Pathway - Case 1



EOP= End of Phase; FDA = Food and Drug Administration; IND = Investigative new drug; NDA = New Drug Application; PAC = Postapproval confirmatory study.

Figure 2 : Development and Registration Pathway - Case 2

Several advantages exist for MK7 and PharmaCo based on the status of knowledge and experience that make the drug development more favorable:

**MK7 effectiveness as a novel drug.**

MK7 would be the first drug to address the pressing need of calcification and stiffening of cardiovascular system addressing wide range of cardiovascular diseases. The addressable pool of patients is in the many millions, and thus the value potential and societal impact of an efficacious treatment is enormous.

**Technological likelihood of success is higher.**

Following completion of the Transaction, PharmaCo will be in the enviable spot of having enough information to increase the likelihood of success while having enough protection to be exclusive.

Significant studies have already been conducted on its performance as a drug, including direct measurement in humans, as well as measures of its pharmacokinetic and toxicology profile and experience in manufacturing. As significant studies have already been conducted, the risk of adverse results or results not being in line with expectations in later studies is considerably reduced since it has already been demonstrated.

Intellectual Property has been secured to discourage competitive entry, with the high promise of additional IP to extent patent life.

#### **Some savings on development time and cost can be expected.**

The knowledge in hand will expedite a portion of the non-clinical and early clinical studies required to complete development of the drug. This fact should save cost and overall time.

#### **4.9.3. MK7 Mammalian safety**

Formal toxicology studies conducted under GLP and ICH guidelines are planned as part of the development program. However, significant amount of information is already well known about the toxicological profile of MK7 that is expected to help expedite the non-clinical portion for the drug development, including Phase I toxicology studies. The drug candidate is expected to have a very low mammalian toxicological profile based on conducted studies. This is highly favorable in a drug.

#### **4.9.4. Pharmacokinetics of MK7 PPC**

Much is already known of the pharmacokinetic properties of the proposed pharmaceutical candidate from prior studies and use as a dietary ingredient. Savings can be made on some requirements for clinical Phase I, and based on already gathered dose-ranging studies, savings are also expected for Phase IIa.

#### **4.9.5. Strategy of selecting and prioritizing relevant clinical indications for MK7 PPC**

Prior to the formation of PharmaCo, NattoPharma evaluated a wide range of potential clinical indications, the results of which were included in a preliminary translational and development document, now under the management of PharmaCo. As further investigation is conducted, the Company will continue to assess the potential indication set, prioritizing the selection based on several key criteria. These criteria include:

- Time: speed to market with first indication, including potential for expedited and/or accelerated regulatory review;
- Strength of intellectual property position along with uniqueness of the solution offered;
- Regulatory risk, including degree to which therapies for target indications are under-represented;
- Technical risk: likelihood of positive subsequent clinical study results based on current knowledge and data;
- Potential size and value of market opportunity;
- Cost of development and regulatory pathway.

All of the therapies currently being considered fall under the category of cardiovascular indications and involve the body's regulation and management of calcium (and calcification-related conditions). This broad category includes numerous indications and potential therapeutic interventions, including, and importantly, a series of conditions within chronic kidney disease. The target indication areas are discussed in greater detail in Section 5.

## 5. FURTHER INFORMATION ON VITAMIN K2

### 5.1. History of Vitamin K

The existence of vitamin K was first demonstrated by the Danish scientist Henrik Dam some 80 years ago. He studied diets in chickens and noticed that his flock was suffering from frequent hemorrhages. He postulated that there had to be a factor in the diet which prevented the bleedings. After extensive research, this unknown micro-nutrient was identified, and named vitamin K – “K” for the Danish word “Koagulation” (English: coagulation). The nature of this vitamin was revealed several years later, in 1939, by another scientist, Professor Edward A. Doisy of St. Louis University School of Medicine, US. He was able to describe the molecular structure of this K factor, and to synthesize not only one molecule, but several closely related molecules. In this way, it was discovered that vitamin K consisted of two groups of molecules; vitamin K1 and vitamin K2.

The discovery of vitamin K was awarded the Nobel prize in Medicine in 1943, and was shared by Professors Henrik Dam and Edward Doisy.

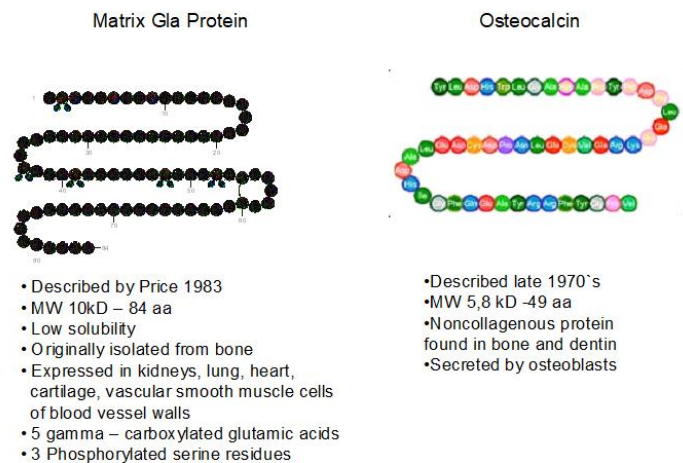
### 5.2. Vitamin K2

Vitamin K consists of a group of molecules with different numbers of isoprenoid units attached to a naphthoquinone-ring structure. The molecular structure of vitamin K can vary according to differences in length and degree of saturation of the aliphatic side-chain. The side-chain of vitamin K1 (phyloquinone) is called phytyl and has only one unsaturated bond; the vitamin K2 side-chain only consists of unsaturated bonds in the isoprenoid units. K2 vitamins are synthesized by bacteria, and they are also called menaquinones (abbreviated as MK-n, where n stands for the number of isoprenoid units). While vitamin K1 represents only one form, while vitamin K2 represents a whole series of molecules. However, only two forms of vitamin K2 (MK-4 and MK-7) are presently commercially available and thus been investigated scientifically.

The function of vitamin K is unique compared to other vitamins. It is a cofactor for the enzyme  $\gamma$ -glutamyl carboxylase. This enzyme carboxylates specific glutamate residue (Glu) within certain proteins which are designated as “Gla-proteins”. Beyond their central role in blood coagulation, Gla-containing proteins have a diversity of regulatory functions in important physiological processes, such as inhibition of soft tissue calcification (matrix-Gla protein, MGP), bone formation (osteocalcin), and cell growth and apoptosis (growth-arrest specific gene 6, Gas-6). In the absence of vitamin K, uncarboxylated species of Gla-proteins are formed, which are biologically inactive.

The Gla-containing blood coagulation factors are synthesized in the liver. Osteocalcin is the most abundant non-collagenous protein in human bone, where it is uniquely synthesized. Finally, matrix Gla-protein (MGP) is expressed in cartilage and in the arterial vessel wall.

All K vitamins have a similar function, but since their pharmacokinetic behavior and tissue distribution following absorption vary greatly, it is obvious that adequate supply to different tissues not only depends on the amount of vitamin K taken, but also on which type of vitamin K ingested. Dietary vitamin K2 intake is considered inadequate in both healthy and diseased people. It has been reported that the uptake of vitamin K1 from green vegetables (which form the main dietary source of vitamin K1) is low and inefficient. Although K2 vitamins comprise only some 10% of our total dietary vitamin K intake, they may form half of the total vitamin K absorbed. Most of vitamin K1 is carried





by the triacylglycerol-rich lipoproteins (chylomicrons and VLDL) in the circulation and rapidly cleared to tissue (mainly liver); a small amount is also carried by LDL and HDL. The higher menaquinones (e.g. MK-7) are observed in the same classes of lipoprotein particles as vitamin K1, but appear to have a different distribution (predominantly HDL and LDL). Since LDL has a long half-life time in the circulation, these menaquinones have better bioavailability for extra-hepatic tissue. As no other long-chain menaquinone besides MK-7 is both documented and commercially available, NattoPharma's MenaQ7 product (MK-7) is highly competitive.

### 5.3. Certain opportunities for usage of vitamin K2 as a pharmaceutical product

The broad area of focus is indications related to cardiovascular health, and specifically involving the role of calcification as a contributing factor to the negative outcomes associated with these indications. In particular, the areas of focus demonstrate a link between calcification and MGP, the vitamin K-dependent calcification inhibitor, to cardiovascular health.

#### 5.3.1. Potential Indication Areas

Vascular calcification is associated with a number of diseases including renal disease, hypercholesteremia, diabetes, arteriosclerosis (Figure 3). However, based on PharmaCo's criteria for first intent programs (speed to market, high regulatory and clinical probability of success, and validation of pharmaceutical application of MenaQ7), renal indications are a high priority (i.e., renal transplant, chronic kidney disease ("CKD")). Key considerations supporting this perspective include, a) both populations demonstrate a high incidence and extent of vitamin K deficiency, b) vitamin K insufficiency is linked to poor clinical outcomes (i.e., cardiovascular ("CV") morbidity/mortality, c) there are opportunities for expedited development programs, and, d) in the case of renal transplant, there is a potential to develop the drug under an orphan indication designation.

**Table. Types and Characteristics of Vascular Calcification**

Types of Vascular Calcification	Location and Features	Associated Condition(s)
Calcific atherosclerosis	Intimal; ossification	Atherosclerosis, hyperlipidemia; osteoporosis; hypertension; inflammation
Calcific medial vasculopathy (Mönckeberg's medial calcific sclerosis)	Tunica media	Type 2 diabetes mellitus; end-stage renal disease; hyperphosphatemia; amputation
Elastocalcinosis	Internal elastic lamina	Pseudoxanthoma elasticum; Marfan syndrome
Calcific uremic arteriopathy	Microvessels; amorphous	End-stage renal disease; warfarin (?)
Calcific aortic valvular stenosis	Aortic face of the leaflets	Hyperlipidemia; congenital bicuspid valve; rheumatic heart disease
Portal vein calcification	Portal vein thrombus or venous wall	Portal hypertension; liver disease

Figure 3 : Types and Characteristics of Vascular Calcification

#### 5.3.2. Vascular Calcification in Renal Disease

The similarities regarding the pathophysiology, clinical manifestations, diagnosis, and treatment of vascular calcification ("VC") in patients with CKD or kidney transplant recipients are substantial owing to the fact the primary reason for kidney transplant is CKD. Differences are related to the progression of renal dysfunction in CKD in contrast to that in renal transplant patients in which there is some "normalization" of important pathophysiologic factors contributing to VC (e.g. disordered bone/mineral metabolism (e.g., hyperparathyroidism, hyperphosphatemia, hypercalcemia, vitamin D and/or K deficiency), uremia, hypercholesterolemia, immunosuppressive drugs Type 2 diabetes, etc.) (Cianciolo 2014, D'Marco 2015, Seyahi 2012, Yazbek 2016).

Although some of these factors are more evident in CKD and may normalize, to some extent, following kidney transplant, VC is often a legacy in these patients (present and worsening during end stage renal disease ("ESRD") prior to transplant). In fact, kidney transplant slows, but does not halt, the progression of both coronary artery calcification and aortic calcification and does not reverse pre-existing cardiovascular calcifications (Cianciolo 2014, Ketteler 2014, Mazzaferro 2009).

According to a literature review by Cianciolo et al., the prevalence of coronary artery calcification in kidney transplant recipients is higher than that assessed in Stage 3 CKD and lower than that found in hemodialysis patients (Cianciolo

2014). Similarly, Marechal et al. demonstrated in a 2-year study of 197 kidney transplant recipients that VC progresses substantially within 4 years and was associated with both traditional and nontraditional CV risk factors (Marechal 2012). Importantly, VC in CKD and following kidney transplant has been shown to predict CV events and all-cause mortality over conventional risk factors (Cianciolo 2014, Disthabanchong 2012). Clinical evidence suggests that pre-emptive kidney transplant (transplant prior to the need for dialysis) provides the best opportunity for ESRD patients to mitigate progressive VC (Sharaf El Din 2016).

In patients with CKD (prior to or following transplant), VC occurs in the subintimal space (tunica intima) and the muscular layer of the arterial wall (tunica media) (Figure 4). However, the most extensive VC is found in patients with arterial medial calcification – a characteristic feature of patients with CKD. Although formerly considered benign because it was neither stenotic nor thrombogenic, it is now recognized that medial muscular arterial wall calcification is associated with higher CV mortality and risk of amputation in patients with type 2 diabetes and CKD (Demer 2008). The underlying pathophysiology elucidating the link between major arterial stiffening and increased risk of CV morbidity/mortality is due to the following events (Klassen 2002, London 2003, Stepan 2011):

- Increased arterial stiffening forces the heart to work harder in order to deliver oxygenated blood to the periphery
- This results in an increase in systolic blood pressure and increases the systolic workload of the left ventricle of the heart
- At the same time, arterial compliance is reduced due to medial wall stiffening thus lowering diastolic pressure (representing pressure in the vascular system between heart beats)
- Ultimately, these processes lead to an increased oxygen demand of the heart, reactive left ventricular hypertrophy, and potentially cardiac ischemia due to an imbalance between myocardial oxygen supply and the increased demand placed on the heart
- This is reflected in both an increase in pulse wave velocity and pulse pressure (difference between systolic and diastolic blood pressure)

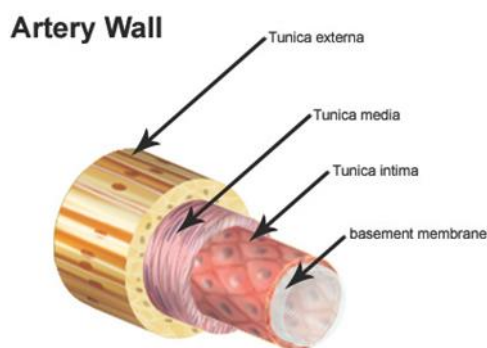


Figure 4 Artery Wall Schematic (Source: <https://training.seer.cancer.gov/anatomy/cardiovascular/blood/classification.html>)

The clinical relevance of VC in patients with CKD and kidney transplant recipients is generally expressed in terms of its potential association with the most common causes of morbidity and mortality in these populations, which include, but are not limited to, the following (Demer 2008, Liu 2015, Sharaf El Din 2016):

- Congestive heart failure - significant reductions in arterial compliance and elastance (e.g., shortness of breath, fluid retention with lower extremity edema, dizziness and fatigue, rapid or irregular heart rate)
- Aortic valve dysfunction – aortic stenosis; chest pain, shortness of breath, fatigue
- Cardiac ischemia – shortness of breath, shoulder/arm pain, nausea/vomiting
- Coronary artery calcification – alteration of atherosclerotic plaque stability increasing risk for acute MI, also prognostic in CHD and acute coronary syndrome
- Stroke – embolism/occlusion of vascular supply to region(s) of brain – sudden onset numbness/weakness of face, arm, or leg, confusion, trouble speaking, visual disturbances, dizziness, loss of balance

Treatment of VC in CKD or renal transplant patients is generally directed towards mitigating progression and may include phosphate binders, vitamin replacement therapy, statins, bisphosphonates, tighter glucose and/or blood pressure control, lifestyle modifications with varying degrees of supportive evidence and clinical success (Cianciolo 2014, D'Marco 2015, Seyahi 2012, Sharaf El Din 2016, Yazbek 2016).

There is no FDA approved agent for the treatment or prevention of VC in renal transplant or CKD patients.



## Cardiovascular Disease in Renal Disease

Cardiovascular disease is defined by the presence of any of the following; coronary artery disease, left ventricular hypertrophy, and peripheral vascular disease. With the exception of left ventricular hypertrophy, the main lesions underlying, and ultimately responsible for, the clinical manifestations of CV disease are atheroma/plaque and VC, which frequently coexist in CKD or kidney transplant recipients (Cianciolo 2014).

The association between VC (including that confined to the medial arterial wall) and all-cause and CV morbidity/mortality in patients with CKD (particularly those with stable ESRD on dialysis), has been demonstrated in several landmark studies.

In a study of 120 stable ESRD patients on hemodialysis, Guerin et al. demonstrated that arterial and aortic stiffness is significantly influenced by the presence and extent of arterial calcifications (Guerin 2000). Further, the influence of calcifications is independent of the role of aging and blood pressure. Subsequently, Blacher et al. determined that the presence and extent of VC were strong predictors of CV and all-cause mortality and that carotid incremental elastic modulus (a measure of arterial stiffness) was additive to the presence and extent of VC-related predictive value in 110 stable ESRD patients on hemodialysis followed for an average of 52 months (Blacher 2001). These findings were further confirmed and extended by London et al. in 202 stable hemodialysis patients in which arterial intimal calcification was shown to be a strong prognostic marker of all-cause and CV mortality (London 2003).

Aside from the possible role of atheromatous plaques and occlusive lesions, higher mortality in ESRD patients with medial arterial wall calcification is also due to arterial stiffening characterized by pulse wave velocity. Indeed, increased wave reflections and high pulse pressure have been shown to be independent risk factors for mortality in ESRD patient. Several studies in ESRD, essential hypertension, and non-insulin dependent diabetic patients have shown that arterial stiffening is an independent predictor of mortality.

The prevalence of cardiovascular disease in patients with CKD is estimated at 69% among patients  $\geq 66$  years or older compared with 34% among those who do not have CKD, and is the leading cause of death in ESRD where the risk of disease is approximately 50-fold higher compared with the general population (Liu 2014, USRDS 2016). Cardiovascular disease accounts for more than 50% of deaths in patients with CKD (Briasoulis 2013). Importantly, CKD patients are more likely to die of CV disease than to progress to ESRD (Briasoulis 2013). In fact, CKD is now recognized as an independent risk factor for CV disease and has a coronary artery disease risk equivalent to individuals who have established coronary artery disease (Briasoulis 2013, USRDS 2016).

Similarly, CV disease is the leading cause of death in renal transplant recipients, with an estimated annual risk of fatal or non-fatal CV events of 3.5 – 5% much higher compared with the general population (estimated 10-year risk  $\sim 20\%$ ); even when adjusted for common risk factors (Cianciolo 2014, D'Marco 2015, Ojo 2013). Cardiovascular events are the first cause of death in kidney transplant recipients, ranging from 36 – 55% (Cianciolo 2014).

Cardiovascular risk factors remain highly prevalent following renal transplant and some immune-suppression drugs actually worsen the risk profile of graft recipients. Further, alterations of mineral and bone metabolism seen in CKD/ESRD are not completely resolved following transplant (D'Marco 2015). Whether the complex pathophysiologic processes promoting progression of VC independently contribute to the increased CV risk in post-transplant patients remains somewhat uncertain however vascular and valvular calcification are prominent factors contributing to the increased risk of poor outcomes in patients with CKD.

Alterations of mineral metabolism and bone remodeling typical of ESRD may affect the long-term CV health of patients after renal transplantation. Pre-existing alterations of mineral metabolism and bone remodeling acquired during CKD progression and dialysis (e.g., hyperparathyroidism), frequently persist and are exacerbated by the effects of immunosuppressive drugs (D'Marco 2015). In fact, cardiovascular calcification continues to progress after renal transplantation, although this may be a slower rate compared with patients receiving dialysis (Cianciolo 2014, Mazzaferro 2009).

VC in CKD and following kidney transplant has been shown to predict cardiovascular events and all-cause mortality over conventional risk factors (Cianciolo 2014, Disthabanchong 2012).

### Inactive MGP as a Marker for Vitamin K Status

Extra-hepatic (plasma) dp-ucMGP is considered a useful vascular marker for vitamin K status (Craneburg 2008, Craneburg 2010, Cranenburg 2012, Dalmeijer 2013). Reference values of 50-700 pmol/L have been used for dp-ucMGP (based on reported levels in healthy volunteers) and subclinical vitamin K deficiency has been defined as plasma concentrations of dp-ucMGP >500 pmol/L in multiple studies (Boxma 2012, Cranenburg 2008, Cranenburg 2010, Cranenburg 2012, Delayne 2014, Mansour 2017). Both patients with renal transplant and CKD have elevated levels of inactive MGP, denoting vitamin K deficiency.

### Vitamin K Supplementation in Renal Transplant

Subclinical vitamin K deficiency is prevalent among renal transplant patients and evidence suggests it may be associated with an increased risk of CV disease and mortality (Boxma 2012, Keyzer 2015, Mansour 2017). In addition, as VC is often a legacy in these patients (worsening during CKD progression through to need for transplant), many of the findings regarding vitamin K deficiency and downstream effects in CKD can also be applied to patients who have undergone renal transplant. Indeed, kidney transplant slows, but does not halt, the progression of both CAC and aortic calcification and does not reverse pre-existing CV calcifications (Cianciolo 2014, Ketteler 2014, Mazzaferro 2009). Furthermore, insights from studies evaluating vitamin K supplementation in CKD patients can also be informative to patients with renal transplants.

In particular one study reported in the literature specifically investigated the effect of vitamin K supplementation on renal transplant patients. In 60 stable renal transplant patients (transplant duration mean 15.9 years, 53% with subclinical vitamin K deficiency [ $> 500$  pmol/L]) Mansour et al. demonstrated significant improvement in arterial stiffness and reduction in dp-ucMGP levels following 8 weeks of daily vitamin K2 supplementation (360  $\mu$ g/day) with a positive correlation between the reduction in arterial stiffness, a surrogate of early CV disease, and circulating concentrations of dp-ucMGP (Mansour 2017). Importantly, the improvement from baseline in inactive MGP levels and cfPWV was significant only in the subgroup of patients with vitamin K deficiency at baseline ( $P = 0.03$ ) compared with those that were not ( $P = 0.25$ ). The authors concluded that subclinical vitamin K deficiency is prevalent among renal transplant recipients and that vitamin K2 (as MK-7) supplementation “is associated with significant improvement in both vitamin K status and measures of arterial stiffness, namely cfPWV (carotid-femoral pulse wave velocity), independently from 24-hour peripheral and central pressures as well as from other major confounders.”

### Vitamin K Supplementation in Chronic Kidney Disease

Vitamin K deficiency is associated with VC in patients with CKD and therefore may be a modifiable risk factor in these patients (Pilkey 2007). Further, the activation of MGP is evolving as a clinically meaningful endpoint in slowing the progression and inducing regression of cardiovascular calcifications in CKD (Czekalski 2015, Ketteler 2014).

Recent clinical studies have demonstrated an association between inactive MGP levels, CKD progression, VC, and overall mortality (Czekalski 2015, Delayne 2014, Ketteler 2014, Kurnatowska 2015, Kurnatowska 2016, Pilkey 2007, Schurgers 2010). Thus, it is understandable that there has been interest in evaluating if vitamin K supplementation can potentially impact inactive MGP levels, VC, and/or other clinical outcomes in patients with CKD. In the studies in CKD patients briefly summarized below, vitamin K2 supplementation was associated with a reduction in inactive MGP and slowed the increase in common carotid intima-media thickness in patients with CKD (Caluwe 2013, Kurnatowska 2015, Kurnatowska 2016, Westenfeld 2012).

In a study of 200 renal dialysis patients (CKD Stage 5), baseline inactive MGP levels were well above the level commonly considered associated with vitamin K deficiency;  $>2,900$  pmol/L (Caluwe 2013). Supplementation with vitamin K2 over 8 weeks at dose levels of 360  $\mu$ g, 720  $\mu$ g, or 1080  $\mu$ g three times per week resulted in a mean 17%, 33%, and 46% reduction in circulating levels of inactive MGP, respectively. The highest dose (1080 mcg, 3x/week) reduced levels of dp-ucMGP to a mean of 1,719 pmol/L, still considered an elevated level and associated with

continued vitamin K deficient status. However, the linear relationship between MK-7 dose and decrease in dp-ucMGP and the absence of a plateau suggests higher doses may further reduce inactive MGP levels (Caluwe 2013).

Investigating whether daily vitamin K supplementation improved the bioactivity of vitamin K dependent proteins, Westenfeld et al. assessed circulating inactive MGP, osteocalcin, and prothrombin in 53 stable long-term dialysis patients compared with 50 healthy age-matched controls (Westenfeld 2012). All patients received vitamin K2 MK-7 at 45, 135, or 360 µg/day for 6 weeks. Baseline levels of inactive MGP and osteocalcin levels were 4.5 and 8.4-fold higher, respectively, in hemodialysis patients compared with controls (3,175 vs. 454 pmol/L and 8.3 vs. 2.6 ng/ml, respectively) – inactive prothrombin levels were elevated in 49/53 hemodialysis patients. A dose- and time-dependent decrease in all inactive proteins measured was observed. Response rates for inactive MGP levels were 77% and 93% in the groups receiving 135 µg and 360 µg of vitamin K2 MK-7, respectively. Absolute reductions in inactive MGP levels were the following: 135 µg vitamin K2 – 2,754 to 2,020 pmol/L; 360 µg vitamin K2 - 2,930 to 2,048 pmol/L (statistically significant). Further, greater decreases in inactive MGP levels were observed at later time points compared with early time points during the 6-week treatment course. The authors concluded that the results of this small study suggest that the majority of hemodialysis patients have a functional vitamin K deficiency and that inactive MGP levels “can be decreased markedly by daily vitamin K2 supplementation.” The authors further suggest that this study supports the rationale for clinical trials evaluating the effect of vitamin K2 supplementation on VC in hemodialysis patients.

Kurnatowska et al. assessed the effect of vitamin K2 supplementation (90 µg/day) with vitamin D (10 µg) vs vitamin D (10 µg) alone for 270 days on the progression of atherosclerosis and calcification in 42 non-dialyzed patients with CKD stages 3-5 (Kurnatowska 2015). At baseline, mean inactive MGP levels were > 900 pmol/L, consistent with vitamin K2 deficiency (> 500 pmol/L). Following treatment with vitamin K2 + vitamin D, inactive MGP levels were reduced, on average, by 11% in contrast to a 4% increase in patients treated with vitamin D alone. Furthermore, a 6.0% increase was observed in carotid artery intima media thickness in the vitamin K + D treatment group compared with a 13.8% increase in the vitamin D only treatment group. In this study, MGP was one of several factors affecting the change in coronary artery calcification score although not independently. No difference was observed between the groups in change in CAC score. The authors conclude that, “a 270-day course of vitamin K2 administration (90 µg/day) may reduce the progression of atherosclerosis in nondialysis subjects with CKD stages 3-5, but does not have a significant effect on CAC progression.” Key limitations, according to the authors, included small sample size, short follow up period, and only 1, relatively low, dose of vitamin K2 evaluated.

Kurnatowska et al. also assessed the effect of vitamin K2 supplementation (90 µg/day) with vitamin D (10 µg) vs vitamin D (10 µg) alone for 270 days on in kidney function and CV risk factors in 38 non-dialyzed patients with CKD stages 4-5 (Kurnatowska 2016). Vitamin K2 supplementation decreased the level of dp-ucMGP by 11% (a drop of 115 pmol/L). Inactive MGP levels were positively associated with some markers of CV risk (proteinuria, serum creatinine, parathyroid hormone, and fibroblast growth factor-23).

As with renal transplant, larger adequate and well-controlled trials will be necessary to further assess and confirm whether supplementation with vitamin K2 ultimately results in a risk reduction with regards to nonfatal and fatal CV events in patients with CKD.

In addition to indications within the CKD space, other larger indications (e.g., atherosclerosis, aortic stenosis, coronary artery disease, postoperative calcification after heart valve replacement, etc.) are also potential areas of significant opportunity. However, as first-intent, they are deemed to be higher risk due to a likely greater noise level (lower signal) driven by the heterogeneity of population, and high cost due to the large sample sizes necessary for clinical trials, the need for multiple late stage studies, long treatment duration, and extended time to New Drug Application (“NDA”) submission.

## 5.4. Commercial Considerations

### 5.4.1. Renal Transplant

Renal transplant is the treatment of choice for end-stage renal disease (ESRD) (Cianciolo 2014, Wolfe 1999). Approximately 16,000 kidney transplants are performed annually in the US and the current prevalence of patients with a functioning renal transplant, in the US alone, is likely around 200,000 (USRDS 2015, 2016). Estimates vary, but a high proportion (50% - 91%) of these patients are likely vitamin K deficient.

Depending on key variables such as participation rates among prospective patients (treated patients number ranging from 75,000 to 150,000, including EU) and the per patient cost of treatment, the potential market size is estimated between USD 250 and 500 million annually.

### 5.4.2. Chronic Kidney Disease

The overall prevalence of CKD in the United States is 14.8% corresponding to approximately 48 million patients (US Census data 2016, USRDS 2016). Approximately 23 million have Stages 3-5 CKD. It is likely that all CKD patients Stages 3-5 are vitamin K deficient to some degree, with the magnitude of deficiency increasing with increasing stage of disease.

Depending on key variables such as participation rates among prospective patients, there is a wide range of possibilities with high upside potential. Considering only Stage 5 patients (dialysis) results in a patient pool of >600,000 just in the US. Depending on participation rates, assumed to be lower than the renal transplant case, (treated patients number ranging from 100,000 to 200,000, including EU) and the per patient cost of treatment, the potential market size is estimated between USD 300 and 600 million annually.

If treatment is expanded to include patients in Stage 3 and 4, the patient pool is in the millions, and the potential market size easily surpasses USD 1 billion annually.

### 5.4.3. Additional indications:

Other large indications as referenced above (e.g., atherosclerosis, aortic stenosis, coronary artery disease, postoperative calcification after heart valve replacement, etc) each represent similarly-sized patient pools (> 1 million), and thus each have the potential to represent market sizes in excess of USD 1 billion annually. These indications and corresponding market opportunities will be evaluated as part of a second phase initiative.

## 5.5. Supplement Cross-over

There are several factors that will minimize the threat of potential cross-over of lower-priced dietary supplement products into the prescription segment. These are:

- Only the registered drug product, to be prescribed by physicians, can make therapeutic claims. This critical distinction will be carried through to marketing and branding to further reinforce the value of the prescription offering.
- The vitamin K2 drug active ingredient will undergo an additional purification step, thus making it a demonstrably different active ingredient from even the comparable high-quality vitamin K2 product sold by NattoPharma into the dietary supplement segment. To further differentiate from the supplement product, it is expected that the prescription vitamin K2 will include a unique formulation integral to the product registration.
- The dose of the prescription product, although not yet determined, is likely to be between 4x and 8x the typical supplement dose. This dosing difference quickly narrows the potential price gap between a supplement and prescription offering. Additionally, and perhaps more importantly, under insurance and national health reimbursement systems, the consumer (patient) is likely to have a lower out-of-pocket

expense than they would if they were to buy supplements directly. An instructive example is the case of prescription omega-3 (Lovaza, Omecor).

- Dietary supplements in most major markets often operate under a “buyer beware” environment due to the fact that supplement products do not undergo the stringent quality assurance steps required with pharmaceutical products. This important distinction makes it unlikely that a responsible physician would want to assume the liability of advising patients to substitute the supplement version for the prescription product.

## 5.6. Competitive landscape and barriers to entry

There are no approved drugs for reduction in dp-uc-MGP or VC. Finally, there are no trials currently listed evaluating vitamin K2 by a pharmaceutical company, with the exception of a terminated trial of E0167 (vitamin K2) by Easi evaluating the drug’s potential effect on hepatobiliary cancer recurrence. All other clinical trials listed on [clinicaltrials.gov](http://clinicaltrials.gov) are by academic institutions and evaluate vitamin K2 effect on a variety of outcomes including VC and arterial stiffness in renal disease patients, aortic stenosis, and bone loss.

It is the Company’s belief that based on existing and pending patents and related intellectual property (as described in a preceding section), the Company will, after completion of the Transaction, have effective tools in place to maintain exclusivity in the targeted indications areas (cardio and related) for the foreseeable future. Additionally, regulatory barriers in the form of data protection and specific grants of exclusivity for certain indications give the Company confidence in the ability of the Company to establish and maintain the leading therapeutic position during the period of exclusivity and beyond.

## 6. NATTOPHARMA FOLLOWING COMPLETION OF THE TRANSACTION

### 6.1. New Corporate Structure

NattoPharma Group will, after the Transaction, consist of NattoPharma ASA and its 100 % owned subsidiaries, NattoPharma R&D Ltd. (Cyprus) and NattoPharma USA, Inc. (USA). NattoPharma will hold a non-controlling interest in PharmaCo of 45,9% after the initial Private Placement in PharmaCo.

### 6.2. Board of Directors and Management

NattoPharma's Board of Directors will continue as it was before the transaction, consisting of 5 members with Frode Marc Bohan as Chairperson.

The management team will consist of the same management as today. The newly started process to select a management team for PharmaCo will identify if there are any potential candidates in NattoPharma that will join PharmaCo AS. Once this is clarified, if required, NattoPharma will initiate a process to potentially replace any resources that will be transferred to PharmaCo as soon as possible thereafter.

### 6.3. Business Model and Strategy

#### 6.3.1. Vitamin K2

NattoPharma's main strategy is to build a global supplement business on the basis of vitamin K2 and other attractive ingredients. The NattoPharma group has over many years invested heavily in research and science in vitamin K2. Backed by the sales and marketing team in NattoPharma, these investments have been crucial to differentiate NattoPharma's own vitamin K2 brand, MenaQ7.

Today MenaQ7 is the world leading vitamin K2 supplement brand, and consumer demand continues to show robust growth. In the next years NattoPharma sees a great potential in focusing more on working with new and existing customers to capitalize on this increasing awareness and growing consumer demand for vitamin K2, and specifically MenaQ7. NattoPharma is the only player that have a full K2-product offering, including soy, natural soy-free, full spectrum and synthetic. With excellent market access and customer technical support across multiple geographies, NattoPharma sees additional opportunities to complement its current vitamin K2 brand strategy by adding new clinically-substantiated ingredients to its product family.

NattoPharma and PharmaCo will enter into a licensing agreement, where NattoPharma exclusively will have access to all relevant know-how and patents, crucial to operate the K2 supplement business. NattoPharma will pay a yearly license fee to PharmaCo for the rights to use the transferred patents in the supplement business. This will include the right to use any future patent granted to PharmaCo for new claims or other intellectual property that PharmaCo obtain in the initial license period.

#### 6.3.2. New ingredients

NattoPharma will add more critical mass to the dietary supplement business by focusing additional resources on expanding the product portfolio with new, scientifically validated ingredients.

An expanded product offering also allows NattoPharma to take advantage of its existing global sales and customer technical support organizations.

## 7. GLOSSARY OF TERMS

API	Active Pharmaceutical Ingredient.
Articles of Association	The Articles of Association of the Company
Big Pharma	The market leaders in the pharmaceutical industry
Board or Board of Directors	The board of directors of the Company
cfPWV	Carotid-femoral pulse wave velocity
CKD	Chronic kidney disease
Company and PharmaCo	PharmaCo AS with registration number 919 864 559
CRO	Contract research organization
CV	Cardiovascular
DMF	Drug Master File is a document prepared by a pharmaceutical manufacturer and submitted solely at its discretion to the appropriate regulatory authority in the intended drug market. There is no regulatory requirement to file a DMF. However, the document provides the regulatory authority with confidential, detailed information about facilities, processes, or articles used in the manufacturing, processing, packaging, and storing of one or more human drugs. Typically, a DMF is filed when two or more firms work in partnership on developing or manufacturing a drug product. The DMF filing allows a firm to protect its intellectual property from its partner while complying with regulatory requirements for disclosure of processing details
Eligible Investors	Means (i) the NattoPharma Investors, (ii) Synergia, and (iii) the Employee Investors, all of which only provided that they are not resident in a jurisdiction where such offering would be unlawful or would require any filing, registration or similar action.
Employee Investors	Certain employees of NattoPharma holding vested share options.
ESRD	End stage renal disease
FDA	The U.S. Food and Drug Administration.
GLP	Good Laboratory Practice
ICH	International Council of Harmonization
IFRS	International Financial Reporting Standards, as adopted by the EU
Ineligible Investors	Means the shareholders of NattoPharma as of the end of 24 November 2017 (as documented by NattoPharma's shareholder register in the VPS on the Record Date) who are resident in a jurisdiction where such offering would be unlawful or would require any filing, registration or similar action.
IND	Investigative new drug
IP	Intellectual Property
IPR	Intellectual Property Rights
ISIN	International Securities Identification Number

MENAQ7 PURE	An award-winning, nature-identical synthetic Vitamin K2, MenaQ7® PharmPure is the only all-trans synthetic available that is free of cis-isomers.
MK7	Menaquinone-7
NattoPharma	NattoPharma ASA, a public limited liability company incorporated under the laws of Norway with registration no. 987 774 339. NattoPharma is the current sole shareholder of the Company.
NattoPharma Investors	Means the shareholders of NattoPharma as of the end of 24 November 2017 (as documented by NattoPharma's shareholder register in the VPS on the Record Date) who are not resident in a jurisdiction where such offering would be unlawful or would require any filing, registration or similar action.
NDA	New Drug Application
Offering Memorandum	This offering memorandum dated 28 November 2017, and its appendices.
Offer Shares	Means the Private Placement 1,925,243 new shares of the Company offered in the Private Placement, at a subscription price of NOK 5.0 per Offer Share.
Payment Date	13 December 2017
Private Placement	Means the offering of 1,925,243 Offer Shares in the Company at a Subscription Price of NOK 5.0 per Offer Share.
Record Date	28 November 2017.
Receiving Agent	DNB Aksjonærservice
Shares	Means the shares of PharmaCo.
Subscription Form	The form for subscription of Offer Shares.
Subscription Price	The price per Offer Share, being NOK 5.0.
Synergia	Synergia Life Sciences Pvt. Ltd.
Transaction	The Company's expected acquisition of all rights and obligations related to NattoPharma's pharmaceutical business
Underwriting Agreement	The agreement between the Company and the Underwriters in respect of the underwriting of the Private Placement.
Underwriters	Means each of Bohan & Co AS, Pro AS, Life Science Sweden AB and KG Investment Comp AS, and " <b>Underwriter</b> " means any one of them.
VC	Vascular calcification
VPS	The Norwegian Central Securities Depository (Norwegian: <i>Verdipapirsentralen</i> ).



## Application Form - Private Placement November/ December 2017

Applications to be submitted to:

Fornavn Etternavn

Adresse 1/co

Adresse 2

Postnummer og sted

Land

**DNB Bank ASA, Registrars Department**  
**P.O. Box 1600 Sentrum**  
**N-0021 Oslo**

**Per e-mail to:**  
**retail@dnb.no**

**GENERAL INFORMATION**

The general meeting of PharmaCo AS (the "**Company**"), a private limited liability company incorporated under the laws of Norway with registration number 919 864 559, has resolved to carry out a private placement with gross proceeds of NOK 9,626,215 through the issuance of 1,925,243 new shares (the "**Offer Shares**"), each with a nominal value of NOK 1.0 (the "**Private Placement**"). The Private Placement is directed towards (i) the shareholders of NattoPharma ASA ("**NattoPharma**") as of the end of 24 November 2017, as registered in the Norwegian Central Securities Depository (the "**VPS**") on 28 November 2017 (the "**Record Date**") (the "**NattoPharma Investors**"), (ii) Synergia Life Sciences Pvt. Ltd. ("**Synergia**"), and (iii) towards certain employees of NattoPharma holding vested share options (jointly, the "**Employee Investors**"), all of which only provided that they are not resident in a jurisdiction where such offering would be unlawful or would require any filing, registration or similar action (jointly, the "**Eligible Investors**"). The Private Placement is directed towards the Eligible Investors subject to applicable exemptions from relevant registration, filing and prospectus requirements, (i) outside the United States in reliance on Regulation S under the US Securities Act of 1933 (the "**US Securities Act**"), (ii) in the United States to "qualified institutional buyers" (QIB's) as defined in rule 144A under the US Securities Act, and (iii) to "accredited investors" as defined in Rule 501 under the US Securities Act. The Company is not required to prepare and publish a prospectus in connection with the Private Placement.

**THE PRIVATE PLACEMENT**

The Private Placement comprises the issuance of 1,925,243 Offer Shares at a subscription price of NOK 5.0 per Offer Share (the "**Subscription Price**"), raising in total approximately NOK 9,6 million in gross proceeds. The Offer Shares may be subscribed by the Eligible Investors. Each NattoPharma Investor will have the right to subscribe for and be allocated one Offer Share per 10 shares registered as held in NattoPharma by such Eligible Investor on the Record Date. Synergia will have a preferential right to subscribe for and be allocated one Offer Share per 10 shares held in NattoPharma as of 24 November 2017 (although not registered in the VPS). The Employee Investors will have the preferential right to subscribe for and be allocated one Offer Share per 10 shares held in NattoPharma as of 24 November 2017 through vested share options. The number of Offer Shares that each Eligible Investor will have the right to subscribe and be allocated will be rounded down to the nearest whole Offer Share. Over-subscription is permitted. Following expiry of the Subscription Period, any Offer Shares that have not been subscribed for and allocated in the Private Placement will be subscribed for and paid for at the Subscription Price by the Underwriters (as defined in the Offering Memorandum), subject to the terms and conditions of the Underwriting Agreement (as defined in the Offering Memorandum).

For further details about the Private Placement and the Company, please refer to the Offering Memorandum dated 28 November 2017 (the "**Offering Memorandum**"). The minutes from the extraordinary general meeting of the Company held on 28 November 2017 and the Company's articles of association are available at the offices of the Company, at Lilleakerveien 2B, 0283 Oslo, Norway. As the Company has recently been incorporated, it has not yet prepared any annual accounts.

**SUBSCRIPTION PERIOD**

The application period will commence on 29 November 2017 at 09:00 hours (CET) and close on 12 December 2017 at 13:00 hours (CET) (the "**Application Period**").

**APPLICATION PROCEDURE**

Applications for Offer Shares shall be made by returning this Application Form to the DNB Bank ASA, Registrar's Department (the "**Receiving Agent**") within the end of the Application Period, in completed and signed form, by e-mail to: [retail@dnb.no](mailto:retail@dnb.no), or to the postal address set out above.

Application Forms received after the end of the Application Period, and/or incomplete or incorrect Application Forms, may be disregarded at the sole discretion of the Company. Any Application Forms received by the Receiving Agent becomes legally binding at the end of the Application Period and may not be withdrawn or amended after such time.

**ALLOTMENT AND SETTLEMENT**

Allocation of the Offer Shares will take place on or about 13 December 2017 in accordance with the following criteria:

- A. Allocation of shares to subscribers will be made in accordance with the preferential rights to subscribe for Offer Shares which have been validly exercised (i.e. through subscriptions) during the Subscription Period.
- B. If not all preferential rights are validly exercised in the Subscription Period, subscribers who have oversubscribed will be allocated additional Offer Shares on a pro rata basis in accordance with the number of preferential rights held by each Eligible Investors. If a pro rata allocation is not possible, the Company will allocate by drawing lots.
- C. Offer Shares which have not been allocated pursuant to item (a) to (b) above, will be subscribed by and allocated to the Underwriters, unless the Underwriters have already satisfied their respective underwriting obligation by subscribing Offer Shares in the Subscription Period, based on and in accordance with the respective underwriting obligations of the Underwriters.

Allocation of fewer Offer Shares than subscribed for by a subscriber will not impact on the subscriber's obligation to pay for the number of Offer Shares allocated.

The confirmation of the number of Allocated Shares (as defined below) will be distributed on or about 13 December 2017. By completing this Application Form, the subscriber authorises the Receiving Agent to debit the subscriber's Norwegian bank account for the total subscription amount payable for the Offer Shares allocated to the subscriber. Accounts will be debited on or about 13 December (the "**Settlement Date**") and there must be sufficient funds in the stated bank account from and including the date falling two (2) banking days prior to the Settlement Date. The Receiving Agent is only authorized to debit each account once, but reserves the right (but have no obligation) to make up to three debit attempts within seven working days after the Settlement Date if there are insufficient funds on the Settlement Date, or if it for other reasons is not possible to debit the bank account.

The Allocated Shares will be delivered to the Applicant's VPS account as soon as practicable after full payment has been received, and is expected to take place on or about two (2) banking days following the Settlement Date.

Subscribers who do not have a Norwegian bank account must ensure that payment with cleared funds for the Offer Shares allocated to them is made on or before the Payment Date. Prior to any such payment being made, the subscriber must contact the Receiving Agents for further details and instructions.

Overdue payments will be charged with interest at the applicable rate from time to time under the Norwegian Act on Interest on Overdue Payment of 17 December 1976 No. 100, currently 8.50% per annum. If the total Subscription Price payable by a subscriber is not settled at the Payment Date, the Underwriters will provide an advance payment for the total subscription amount payable by the relevant subscriber. The relevant subscriber will thereafter receive a notice from the Board stating that the total Subscription Price must be paid to the Company within seven days. If the subscriber has not paid the total Subscription Price within seven days after the date of such notice, the Board will allow one of the Underwriters or another Eligible Investor to subscribe those Offer Shares.

**SPECIFICATION OF APPLICATION**

Applicant's VPS account:	Number of Offer Shares the Applicant wishes to subscribe for (incl. oversubscription):	Bank account to be debited*:
	Price per share (" <b>Subscription Price</b> ") <b>NOK 5,0</b>	Total amount to pay (" <b>Application Amount</b> "): <b>NOK 5,0</b>

*\*If left blank, the bank account registered on the Applicant's VPS account will be debited.*

By executing and submitting this Application Form, the Applicant irrevocably confirms the Applicant's request to subscribe for up to the number of Offer Shares at or up to the Application Amount specified by such Applicant at the Subscription Price, and irrevocably authorizes and instructs the Chairman of the Board of Directors or the Company, or such person the Chairman may authorize, to subscribe for the number of Offer Shares allocated to the Applicant in the Private Placement (the "**Allocated Shares**") on behalf of the Applicant and cause their delivery in the VPS account indicated by the Applicant, limited up to the maximum number of Offer Shares set out below. Further, the Applicant irrevocably confirms that (i) the Applicant is aware that a prospectus has not been prepared in respect of the Private Placement, (ii) the Applicant has (a) read and understood the Offering Memorandum, or (b) that the Offering Memorandum has been made available to the Applicant and that the Applicant has voluntarily chosen not to read the Offering Memorandum, (iii) the investment in the Offer Shares is made solely at the Applicant's own risk, (iv) the Applicant is not subscribing for or purchasing Offer Shares, either on the Applicant's own account or for the account of others, in contradiction to the selling and transfer restrictions set out in the Offering Memorandum and in Exhibit I below, and (v) the Application Form constitutes a binding agreement between the Applicant and the Company and the Applicant confirms that it has read and understood, and accepts to be bound by, the entire Application Agreement (including Exhibit I).

\_\_\_\_\_  
Application place and date

\_\_\_\_\_  
Binding signature. The Applicant must be of age. When signing per procura, documentation in form of company certificate or power of attorney must be enclosed.

**DETAILS OF APPLICANT (all fields must be completed)**

Applicant name/Company name	Date of birth and national ID number/Company organization no:
Street address/Postal code/city/state/country etc.	Telephone (day time)
Contact person with Applicant	E-mail

## EXHIBIT I

### Terms and conditions of Application

#### CONDITIONS TO THE PRIVATE PLACEMENT

Completion of the Private Placement is subject to the satisfaction of the following conditions:

- (i) that the total number of Offer Shares is subscribed (i.e. 1,925,243 Offer Shares);
- (ii) that the total subscription amount is fully paid-up; and
- (iii) registration of the share capital increase in the Norwegian Register of Business Enterprises.

#### VPS REGISTRATION AND DELIVERY OF ALLOTTED SHARES

The shares in the Company are registered with the VPS and are freely transferable, with delivery and settlement through the VPS system. When the share capital increase of the Company becomes effective (*i.e.* when the Company has received payment for all allotted shares and the share capital increase pertaining to the Private Placement has been registered with the Norwegian Register of Business Enterprises), the Offer Shares will be issued by the Company and delivered through the VPS to the subscribers in accordance with the allocation after registration of the Offer Shares in the VPS.

#### RISKS/REPRESENTATIONS AND WARRANTIES

The Applicant has sufficient knowledge, sophistication and experience in financial and business matters to be capable of evaluating the merits and risks of a decision to invest in the Company by applying and ordering for Offer Shares and the Applicant is able to bear the economic risk and to withstand a complete loss of an investment in the Offer Shares. The Applicant has had access to such financial and other information concerning the Company, and the Offer Shares as it deemed necessary or desirable in connection with the Application for the Offer Shares, and has made such investigation with respect thereto as it deems necessary. The Applicant is familiar with the Company, its business and the various risks associated thereto. The Applicant understands and acknowledges that the Private Placement involves a high degree of risk. The Applicant has made its own assessment of the Company and, to the extent deemed necessary by the Applicant, consulted with its own independent advisors, and has satisfied itself concerning the relevant tax, legal and other economic considerations relating to its investment in the Offer Shares.

The Private Placement is solely based on the Offering Memorandum. The Applicant expressly acknowledges that no other offering document, private placement or information memorandum, listing particulars or prospectus or any similar document or material has been prepared in connection with the Private Placement and that the Company does not intend to prepare such material or offering document, and confirm and accept that the Application is made on this basis.

The Applicant acknowledges that no due diligence investigations or evaluation of the Company's forecasts or budgets or other verification exercises has been conducted prior to the Private Placement, and the Applicant expressly accepts the risks associated with these facts. Please refer to the Offering Memorandum for further information about the risk factors pertaining to the Company and the Private Placement.

#### SELLING RESTRICTIONS

The Applicant understands that no action has been or will be taken by the Company that would, or is intended to, permit a public offer of the Company's securities in any country or jurisdiction where any such action for that purpose is required, and that the Company's securities may not be, directly or indirectly, offered or sold and that no prospectus, form of application, advertisement or other document or information may be distributed or published in any country or jurisdiction except in compliance with any applicable laws and regulations and all reoffers and sales of the Company's securities by the Applicant will be made on the same terms.

#### POWER OF ATTORNEY

The Applicant hereby irrevocably authorises and instructs the Chairman of the Board of Directors of the Company (or such person appointed by the Chairman) to take all actions required to subscribe for and ensure delivery of the allocated shares in the VPS, on behalf of the Applicant, and the Applicant undertake to ratify all acts made on its/his/her behalf in this respect.

#### GOVERNING LAW

This Application Form and the Private Placement shall be governed by Norwegian law. Any disputes regarding the Application Form and the Private Placement which cannot be solved amicably, shall be referred to the ordinary courts of Norway with Oslo District Court as exclusive legal venue.