



FOURTH QUARTER 2019 REPORT

Ultimovacs

Year-to-date of 2019 – at a glance...

Operational

- The process of starting up the randomized phase II trial in malignant melanoma (named INITIUM) is progressing according to plan towards inclusion of the first patient in Q1-20. The trial will include 154 patients.
- UV1 will also be investigated in a randomized, multi-center phase II trial in mesothelioma (named NIPU), sponsored by Oslo University Hospital and supported by Ultimovacs and Bristol-Myers Squibb. The trial is expected to commence in Q1-20 and will include a total of 118 patients.
- The initiation of the NIPU trial implies that UV1 will be tested in two large randomized, fully funded phase II trials in different cancer types with a total of 272 patients. This represents a major step forward for Ultimovacs and the development of UV1. Being engaged in two such trials in parallel will enhance the opportunities for successful clinical results and support that UV1 may be broadly applicable across cancer types.
- In the US based phase I trial in malignant melanoma, in which UV1 is given in combination with a PD-1 checkpoint inhibitor, all 20 of the initially planned patients have been successfully included (cohort 1 – safety pembrolizumab/UV1). No unexpected safety issues have been observed to date.
In this study, a group of 10 patients (cohort 2 – dose finding GM-CSF) will be added in order to investigate an increased dosage of the adjuvant GM-CSF.
- In the three completed phase I trials, observation of long-term survival provides, together with safety and immune response data, strong support for the initiation of larger randomized phase II trials with UV1. During 2019, Ultimovacs has received 4-year survival data for the NSCLC and malignant melanoma trials, and 5-year survival data for the prostate cancer trial.
- The European Patent Office has granted Ultimovacs patent for UV1 in Europe which gives protection for UV1 until 2031.
- As presented in a separate stock exchange announcement on 13 February 2020, Ultimovacs has appointed Carlos de Sousa as new Chief Executive Officer. Mr. de Sousa will join Ultimovacs as new CEO on 1 June 2020. Until then, Øyvind Kongstun Arnesen will continue in his position as CEO.

Financial

- Total operating expenses amounted to MNOK 27.8 in Q4-19 and MNOK 66.2 FY19.
- Cash flow from operations was MNOK -13.3 in Q4-19 and MNOK -63.0 in FY19. Total cash and cash equivalents were reduced by MNOK 12.4 during Q4-19 and increased by MNOK 284.3 during FY19, amounting to MNOK 399.6 as per 31 December 2019.
- Successful initial public offering ('IPO') on the Oslo Stock Exchange with first day of trading on 3 June 2019. In this process, the company carried out an equity issue raising gross proceeds of MNOK 370 by offering 11,840,000 new shares. The price per Offer Share was set at NOK 31.25, corresponding to market capitalisation of Ultimovacs at IPO of approximately MNOK 870.

Key financials

NOK (000) Unaudited	Q4-19	Q4-18	FY19	FY18
Total revenues	-	-	-	-
Total operating expenses	27 833	13 472	66 217	56 522
Operating profit (loss)	(27 833)	(13 472)	(66 217)	(56 522)
Profit (loss) for the period	(25 363)	(12 704)	(61 166)	(55 280)
Diluted and undiluted earnings / (loss) per share (NOK)	(0.9)	(0.8)	(2.7)	(3.5)
Net increase / (decrease) in cash and cash equivalents	(12 440)	(8 132)	284 332	(54 240)
Cash and cash equivalents at end of period	399 607	115 540	399 607	115 540

CEO's corner

UV1 – a Universal cancer vaccine

Being Universal

The goal for any cancer vaccine is to make the immune system produce T-cells able to recognize and kill cancer cells. The crucial question for researchers is: exactly what should the T-cells recognize? There are two basic requirements to be fulfilled: 1. It must be present on the cancer cells you are trying to kill. 2. It must not be present on the surface of the cells you do not want to kill. All cancer vaccines in development fulfil these two criteria, but beyond this they differ.

We (Ultimovacs) state that our vaccine (UV1) is universal. We use the word 'universal' for two reasons. First, the 'marker' (hTERT) we make t-cells recognize is present in 85-90% of all cancers. Please note that we say 90% of all types of cancer, not 90% of all cancer patients. Very few cancer patients have tumors not expressing telomerase.

Second, we also know that the cancer cells always must have hTERT since their lives literally depends on it. If they stop having hTERT (the UV1 'marker'), they die. Almost all cancers have it and they can not live without it.

Universal: Easy to combine with other immunotherapies

With basic knowledge about immunotherapy and checkpoint inhibitors, you will recognize a similarity between UV1 and checkpoint inhibitors: Both blocking checkpoints and producing T-cells recognizing hTERT are universal principles of cancer treatment. This is not 'personalized' cancer treatment. In his talk at Oslo Cancer Cluster a few weeks ago, James P (Jim) Allison used the word 'impersonalized' cancer treatment about the checkpoint inhibitor that won him the Nobel Prize.



Since both checkpoint inhibitors and UV1 are universal and that they will facilitate each other in supporting the killing of cancer cells, there is a good reason to combine them. This is exactly what we are doing in two large, randomized trials. We will find out if the combination of UV1 from Ultimovacs with two checkpoint inhibitors from Bristol-Myers Squibb is superior to the two checkpoint inhibitors alone. This will be tested in two different cancer types, malignant melanoma (the INITIUM trial) and mesothelioma (the NIPU trial) as described elsewhere in this report. When these trials are reporting their results, we will have tested UV1 in four different cancer types: prostate cancer, non-small cell lung cancer, malignant melanoma and mesothelioma. We might also include other types of cancer to further document that UV1 is truly universal.

Universal: Simple to manufacture and use

Since we know that hTERT is expressed in the cancer, we do not need biopsies or complex testing of patient and tumor to decide if the patient can benefit. All patients use the same vaccine, and the use does not require complex infrastructure. The production is not very complex and Ultimovacs has already established and tested the process for mass production. The shelf life of the vaccine is long and the same as for other, chemically stable medicines.

Universal: Can be developed to prevent cancer

A cancer vaccine used to prevent a cancer from growing must produce T-cells recognizing a marker on the cancer cells we beforehand know will be there. If you need to analyze a biopsy to decide what your T-cells will recognize, such a vaccine can not be used to prevent cancer.

In the Ultimovacs development plan you will find the pre-clinical development of UV2. Here we will explore the possibilities for developing UV2 in stages of cancer where there is no real tumor or tumors so small that they are very difficult or impossible to detect. In the future we might also be able to explore the effect of our vaccines in preventing cancers from occurring in people with very high risk, identified in a screening program.

Øyvind Kongstun Arnesen, CEO

Key Operational Highlights Q4 2019

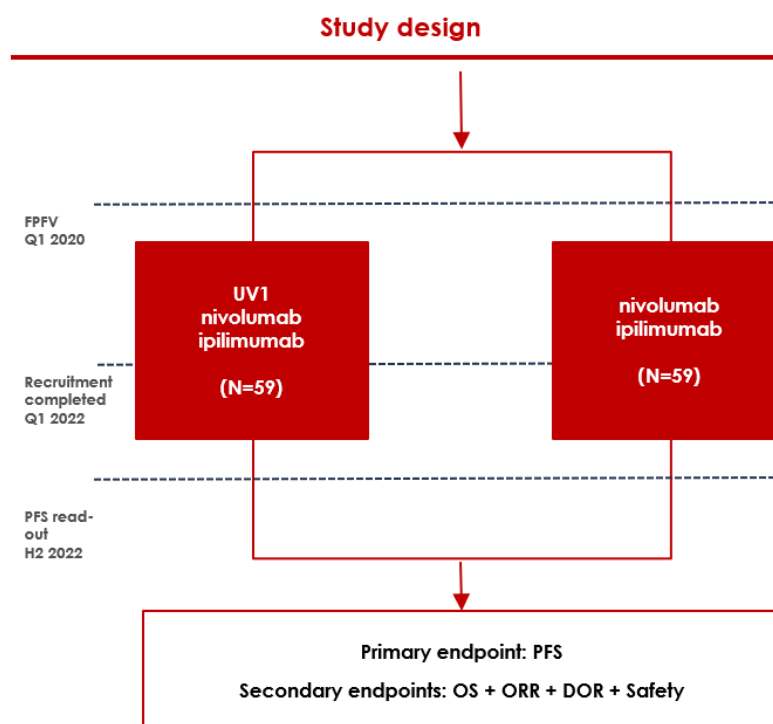
Clinical trial update

- *The NIPU trial*

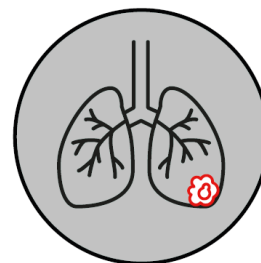
On 13 December 2019, Ultimovacs announced that UV1 will be investigated in a randomized, multi-center phase II trial in mesothelioma. The trial, named NIPU, investigates UV1 in combination with the checkpoint inhibitors nivolumab and ipilimumab as second-line treatment in mesothelioma. Oslo University Hospital ('OUS') is the sponsor of the study. Bristol-Myers Squibb ('BMS') and Ultimovacs have entered into agreements with OUS to support the preparations and execution of the trial. Ultimovacs will cover the costs associated with its participation in the study from existing funds. Patient recruitment will commence in Q1-20.

A total of 118 patients will be included in the study. Half of the patients will be treated with the combination of UV1, nivolumab and ipilimumab, whereas the other half will receive nivolumab and ipilimumab only. The study is planned to be conducted at five hospitals in four countries (Norway, Sweden, Denmark and Australia). The study sites are planned to be Oslo University Hospital in Norway, Karolinska University Hospital and Skåne University Hospital Lund in Sweden, Rigshospitalet in Denmark and Sir Charles Gairdner Hospital in Perth, Australia.

The primary endpoint of the trial is progression-free survival (PFS) and the PFS read-out is expected mid-2022. The necessary approvals from the Norwegian Medicinal Agency and the ethics committee in Norway are in place to initiate the trial. The objective of the study is to induce a clinically meaningful progression-free survival (PFS) benefit in patients with malignant pleural mesothelioma (MPM) after progression on first-line standard platinum doublet chemotherapy.



MPM is a rare malignant tumor originating from the cells lining the mesothelial surface in the lungs. MPM is the most common type of mesothelioma and is a disease with a high unmet medical need with a median overall survival of approximately 1 year. Most patients are treated with palliative chemotherapy. Patients with disease progression after first-line therapy have few therapeutic options. Asbestos exposure is heavily linked to the development of the disease. It may take 10 - 50 years for symptoms of mesothelioma to manifest after initial asbestos exposure. Even though the use of asbestos to a large extent is banned today, new incidences of mesothelioma will continue to be a medical challenge for decades.



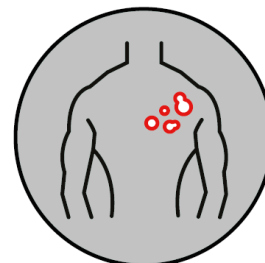
- *The INITIUM trial*

The preparations to start the randomized phase II trial in malignant melanoma (named INITIUM) are progressing according to plan towards inclusion of the first patient in Q1-20. The main ongoing activities are identification of hospitals for the trial, obtaining necessary approvals, logistical preparations and selection of principal investigator.

The Independent Data Monitoring Committee for the INITIUM trial is established with the following members: Jeffrey Weber (NYU Langone Health, NY, USA), James Larkin (Royal Marsden, London, England), Caroline Robert (Gustave Roussy Cancer Campus, Grand Paris, France) and Kevin Carroll (KJC Statistics Ltd).

- *Ongoing phase I trial in malignant melanoma*

In the ongoing US based phase I trial in malignant melanoma, in which UV1 is given in combination with a PD-1 checkpoint inhibitor, all 20 of the initially planned patients have been successfully included (cohort 1 – safety pembrolizumab/UV1). No unexpected safety issues related to UV1 have been observed to date. In September 2020, all patients in cohort 1 will have 1-year observation time. Safety and efficacy data from this cohort will be presented at an international medical conference.



In this study, a group of 10 patients (cohort 2 – dose finding GM-CSF) will be added in order to investigate an increased dosage of the adjuvant GM-CSF. 3 of these 10 additional patients have been enrolled as of 13 February 2020. The remaining patients are expected to be fully enrolled during 2020. For Ultimovacs, this trial gives supporting data for future filing applications. The progress of this trial does not dictate timelines for the randomized phase II trials.

- *Previous trials*

The three completed phase I trials have been reviewed by FDA (U.S. Food and Drug Administration) and founded the basis for starting clinical research in the US in malignant melanoma. Ultimovacs sees the outcome of these trials as a strong basis for the further development of UV1.

During the fourth quarter of 2019, Ultimovacs has obtained new data on overall survival in the malignant melanoma trial, where 4-year overall survival is 50%.

Clinical trial ⁵	Overall Survival (OS) ¹					Median OS (months)	mPFS ² (months)
	Year 1	Year 2	Year 3	Year 4	Year 5		
Prostate (n=22)	95 %	86 %	73 %	55 %	50 %	Will be more than 60 months	n.a. ³
NSCLC (n=18)	72 %	50 %	44 %	39 %	H2-20	28.2	12.3
Malignant Melanoma (n=12)	75 %	75 %	67 %	50 %	Q1-21	Will be more than 48 months	6.7 ⁴

1. Note that some patients have received other treatments upon progression and this is likely to affect survival

2. Median Progression-Free Survival

3. PFS (Progression-Free Survival) not possible to measure in the prostate cancer trial. Instead, patients are followed on PSA measurements. As of today, 8 patients have normalized PSA levels. (For definition of PSA, please see Glossary at the end of this report)

4. mPFS updated after database revision (previously reported as 6.5 months)

5. Prostate: (EudraCT No. 2012-002411-26) NSCLC: (EudraCT No. 2012-001852-20) MM: (EudraCT No. 2013-005582-39)

In this completed phase I/IIa, single-center trial, UV1 was given in combination with ipilimumab and conducted at the Oslo University Hospital. Patients with metastatic melanoma received treatment with UV1 (300 µg) + GM-CSF (75 µg) as an adjuvant, combined with ipilimumab (3 mg/kg). A total of 12 patients were treated from February to November 2015. After having followed all patients for four years, the main results are as follows:

- Treatment was generally well-tolerated. Adverse events mainly included injection site reactions and diarrhea.
- Immune responses towards the UV1 peptides occurred very early and 10/11 (91%) of evaluable patients showed an immune response.
- With 4 years of follow-up, one patient obtained a complete tumor response and three patients obtained a partial response, resulting in an objective response rate of 44% based on 9 evaluable patients.
- The median progression free survival (mPFS) was 6.7 months.
- Overall survival at 3 and 4 years was 67% and 50%, respectively. Although this study did not have a direct comparator arm, the results compare favorably to the ipilimumab monotherapy phase IV study at the Oslo University Hospital (the 'IPI4 study'). The hospital enrolled 69 patients in the IPI4 study, with the same investigators, during the same time period and with similar inclusion criteria as Ultimovacs' phase I study. The IPI4 study had a 4-year overall survival of 27.5%, which is consistent with survival data in the major historical ipilimumab studies.

In conclusion, combining UV1 and ipilimumab is safe and induces favorable clinical responses in melanoma. The high proportion of immunological responders and early induction of detectable immune responses suggest synergism between UV1 and ipilimumab. Response rates and overall survival compare favorably to the IPI4 study and relevant historical controls. The results warrant further investigation of UV1 in combination with immune checkpoint blockade in malignant melanoma.

These results were presented as a poster at the ASCO-SITC Clinical Immuno-Oncology Symposium on 7 February 2020 (see next section).

Publications and presentations

- Abstract presentation: On 7 February 2020, Ultimovacs presented the abstract 'A Phase I/IIa Clinical Trial Investigating the Therapeutic Cancer Vaccine UV1 in Combination with Ipilimumab in Patients with Malignant Melanoma: 4-year Survival Update' at the 2020 ASCO-SITC Clinical Immuno-Oncology Symposium. 4-year survival outcome of the clinical trial (UV1 + ipilimumab combination) conducted at the Oslo University Hospital in malignant melanoma was presented (please see previous section for results). The ASCO-SITC Clinical Immuno-Oncology Symposium is a three-day meeting focused on clinical and translational research in immuno-oncology and the implications for clinical care.

Organization

- As presented in a separate stock exchange announcement on 13 February 2020, Ultimovacs has appointed Carlos de Sousa as new Chief Executive Officer. Dr. de Sousa will join Ultimovacs as new CEO on 1 June 2020. Until then, Øyvind Kongstun Arnesen will continue in his position as CEO.

Dr. de Sousa joins Ultimovacs as a seasoned industry executive with 30 years of experience ranging from leadership positions at international pharmaceutical companies such as Pfizer, Novartis and Nycomed/Takeda, to executive management roles at several innovative biotech companies. During his work with these biotech companies, he achieved several rounds of successful capital increases and fund-raising efforts, supported the up-listing to the main market of Nasdaq Stockholm, and enabled the advance of early to mid-stage product development pipelines. Over the course of his career, Dr. de Sousa has built extensive experience in business development, licensing agreements and strategic partnerships and brings to Ultimovacs the benefit of a broad and international industry network. His most recent position was President and Chief Executive Officer of the Swedish immuno-oncology company, Immunicum AB. Dr. de Sousa is a Medical Doctor by training, having earned his degree at School of Medicine, University of Lisbon and holds an Executive MBA from the Stern School of Business, New York University.

Background

Ultimovacs is a pharmaceutical company developing novel immunotherapies against cancer. The Company was established in 2011 and is listed on the Oslo Stock Exchange. The company's proprietary technology is based on pre-clinical and clinical research on immunotherapies conducted at the Oslo University Hospital. Ultimovacs is located at the Oslo Cancer Cluster Innovation Park in Oslo, Norway, and is an active member of Oslo Cancer Cluster. Ultimovacs is performing a broad clinical development program with clinical trials in Europe and the USA.

The lead product candidate is UV1, a peptide-based vaccine inducing a specific T cell response against the universal cancer antigen telomerase (hTERT), expressed at a high level in over 85% of human tumors. The vaccine's mode of action is to make the immune system produce CD4 T cells (i.e. T helper cells), recognising cancer cells expressing telomerase (hTERT).

UV1 is being developed as a therapeutic cancer vaccine and a platform for other immuno-oncology drugs which require an ongoing T cell response for their mode of action. A vaccine like UV1 is attractive to investigate in early stage tumors and also in preventing tumors from starting to grow.

Treatment in three Phase I studies have been completed at the Oslo University Hospital. The patients have been followed up for survival, immune response and new anti-cancer treatment. Fifty-two (52) patients have been enrolled in these studies.

- *Prostate cancer (22 patients)*
Patients with advanced prostate cancer without lung and/or liver metastases were enrolled. These patients had started CAB treatment (GnRH-agonist combined with anti-androgen therapy) prior to UV1 treatment.
- *Non-small cell lung cancer (NSCLC, 18 patients)*
In the lung study stage 3b/4 NSCLC patients were enrolled, who previously had been treated with palliative radiotherapy and/or at least two courses of chemotherapy. These patients were not to be in progression, confirmed by CT, at least 4 weeks prior to UV1 treatment.
- *Malignant Melanoma – UV1 in combination with ipilimumab (12 patients)*
The malignant melanoma trial included patients with unresectable or metastatic disease when enrolled and were eligible for ipilimumab. Ipilimumab is an agent stimulating immune cell generation and is an approved drug for treatment of malignant melanoma.

Safety and tolerability were primary endpoints in all three studies, while immune response towards any of the UV1 peptides and efficacy were secondary endpoints.

Three different dose levels of UV1 were investigated in the prostate cancer and NSCLC studies (100, 300 and 700 µg). In the malignant melanoma study, 300 µg UV1 was given in combination with ipilimumab. The UV1 doses have been given with GM-CSF as an adjuvant treatment.

Data from the three studies showed that UV1 is generally well tolerated. There were no dose limiting toxicities.

UV1 induced an immune response (telomerase (hTERT) specific T-cells) in 82% of patients across the three studies (range 67-91%).

When combining UV1 with ipilimumab, a CTLA-4 checkpoint inhibitor, 91% of malignant melanoma patients developed an immune response. The responses appeared earlier, required fewer vaccinations, and were stronger and more long lasting compared to vaccination with UV1 alone. These data are compatible with a mechanism of action where blocking CTLA-4 checkpoints induce additional expansion of UV1 specific T cells induced by UV1 vaccination.

The three completed trials show clinical outcomes that Ultimovacs sees as a strong basis for the further clinical development of UV1. Please refer to the table under “Key operational highlights” for results from the trials. All patients are followed for overall survival up to ten years and overall survival status will be updated regularly.

Based on the outcome from these previous trials, Ultimovacs is currently investigating UV1 in another phase I trial where UV1 is combined with a PD-1 checkpoint inhibitor, and in larger randomized phase II trials (please see next section for further details).

Outlook

Ultimovacs is currently the sponsor of one ongoing clinical study which is run in the US. In this phase I study the safety and tolerability of treatment with the combination of pembrolizumab (PD1 inhibitor) and UV1 in 30 patients with metastatic malignant melanoma is investigated.

Ultimovacs is preparing a randomized phase II trial (named INITIUM) where UV1 will be combined with anti-PD-1 plus anti-CTLA-4 in metastatic malignant melanoma. This trial is intended to be initiated in Q1-20, with readout of the primary endpoint progression-free survival (PFS) during the second half of 2022. Study objectives include obtaining efficacy and safety data on the combination therapy. The experimental objective across all Ultimovacs studies is to establish a relevant biobank of patient material for characterization of the immunological response and changes in the tumor milieu promoted by UV1 vaccination.

UV1 will also be investigated in a randomized, multi-center phase II trial in mesothelioma. The trial, named NIPU, investigates UV1 in combination with the checkpoint inhibitors nivolumab and ipilimumab as second-line treatment in mesothelioma. Oslo University Hospital ('OUS') is the sponsor of the study, and Bristol-Myers Squibb and Ultimovacs will support the preparations and execution of the trial which is expected to commence in Q1-20.

Ultimovacs will on an ongoing basis seek and evaluate potential cooperation projects with academic institutions and pharmaceutical companies in order to document the effect and safety of UV1 in other cancer types and in combinations with different cancer treatments.

Following positive results from randomized phase II trials, Ultimovacs will most likely pursue the further development towards commercialization of UV1 in one or more partnerships with pharmaceutical companies that have a significant position in relevant markets.

Ultimovacs also seeks to broaden its pipeline of drug/technology candidates. The R&D activities are currently focused on development of a new first-in-class cancer vaccine solution building on technology of Ultimovacs and the acquired TET-platform, and on development of new molecules and technologies based on biobank material from the ongoing and planned clinical studies conducted with UV1.

Ultimovacs is making development choices based on the knowledge that UV1 is a universal vaccine in several dimensions; the vaccine can potentially play a role across most cancer types, in most patients, in different stages of cancer and in combination with other cancer treatments. Thus, with positive results from future randomized, clinical trials, the development potential is significant.

Risks and uncertainties

Ultimovacs is a research and development company that is still in its early stages. The Company has not generated any revenues historically and is not expected to do so in the short term. Research and development up to approved registration is subject to considerable risk and is a capital-intensive process. The Company's candidates for cancer vaccines and technology platforms are dependent on research and development and may be delayed and/or incur higher costs than currently expected. Competing pharmaceuticals can capture market shares or reach the market faster than Ultimovacs. If competing projects have a better product profile (e.g. better efficacy and/or less side effects), the future value of Ultimovacs' product offerings may be lower than expected. The operations may also be impacted negatively by changes or decisions regarding laws and regulations. In addition, the Company is also dependent upon intellectual property rights.

The primary financial risks are foreign exchange risks and financing risks. The company is affected by foreign exchange risk as the research and development costs for UV1 are mainly paid in USD and EUR. In addition, the Company has investment in foreign operations, whose net assets are exposed to currency translation risk. Adequate sources of funding may not be available when needed or may not be available on favourable terms. The Company's ability to obtain such additional capital or financing will depend in part upon prevailing market conditions as well as conditions of its business and its operating results, and those factors may affect its efforts to arrange additional financing on satisfactory terms. The Board of Directors works continuously to secure the business operation's need for financing.

Ultimovacs' financial risk exposures are described in more detail in the 2018 IFRS financial statement. No significant changes have occurred that affect these reported risks.

Financial review

Financial results

Ultimovacs does not yet generate revenues, as the Company is in a research and development phase. In FY19, the company received government grants of MNOK 7.8 compared to MNOK 5.8 in FY18, which has been deducted from payroll expenses and other operating expenses.

Payroll and payroll related expenses increased in Q4-19 (MNOK 8.7) compared to the same period in 2018 (MNOK 7.1), due to three more FTEs in this period compared to the same period in 2018. Payroll and payroll related expenses in FY19 was MNOK 20.2 compared to MNOK 27.1 in FY18. The decrease in FY19 compared to FY18 is primarily a result of the share-based payment liability reversal in June 2019. Several of the company's employees had synthetic shares which were valued at MNOK 10.2 with a corresponding liability in the balance sheet. This incentive scheme was terminated and replaced by a share option program when Ultimovacs was listed on the Oslo Stock Exchange. As all synthetic shares at the time of listing were valued lower than the strike price, all synthetic shares were settled/terminated without any value. Consequently, the liability of MNOK 10.2 was reversed in June 2019. Not taking into account this reversal, payroll and payroll related expenses were higher in FY19 than in FY18, primarily as a result of a higher headcount (17 FTEs as per end of FY19 compared to 14 FTEs as per end of FY18).

Other operating expenses primarily comprise R&D related expenses. These expenses, including IP and external R&D expenses, offset by government grants, amounted to MNOK 16.6 in Q4-19, and MNOK 1.5 in Q4-18. Total R&D expenses totalled MNOK 32.9 in FY19 and MNOK 15.5 in FY18. During 2018 and 2019, significant resources have also been spent on preparing the Company for the listing on Oslo Børs (Oslo Stock Exchange) in June 2019. Several corporate, legal and financial advisors have been involved in the process in both 2018 and 2019. Total direct costs expensed in the P&L related to the listing amounted to MNOK 3.2 in FY19. Costs related to the same listing process which could be directly attributed to the share capital increase (i.e. not expensed in the P&L) amounted to MNOK 25.4 in FY19). Total operating expenses were higher in FY19 (MNOK 44.0) compared to FY18 (MNOK 28.8) due to higher R&D and IPO related expenses.

Total loss for the Q4-19 period amounted to MNOK 25.4 vs. MNOK 12.7 in Q4-18. Total loss in FY19 amounted to MNOK 61.2 compared to a loss of MNOK 55.3 FY18.

Financial position

Total assets per 31 December 2019 was MNOK 478.0, an increase of MNOK 288.2 from 31 December 2018, primarily as a result of increase in bank deposits from the issued shares in the IPO in June 2019.

In relation to the implementation of IFRS 16, an office rental contract and four car-leasing contracts have been capitalised in the balance sheets. The right-to-use-assets and its corresponding liability have been capitalized, amounting to MNOK 3.5 and MNOK 3.6 respectively per 31 December 2019. Total liabilities as of 31 December 2019 amounted to MNOK 33.4.


Total equity equalled MNOK 444.6 as of 31 December 2019. The equity was increased by MNOK 370 in June 2019, which was the gross amount raised in the IPO by issuing 11.840.000 new shares at a price per share of NOK 31.25. Costs which could be directly attributed to the share issue have been deducted against equity, reducing share premium by MNOK 25.4 and resulting in net proceeds from the share issue of MNOK 344.6. Further in FY19, total equity has decreased by the period's operating loss and translation differences amounting to MNOK 61.8, and in addition been increased by the recognition of share-based payments/stock options of MNOK 2.0.

Cash flow

Total net decrease in cash and cash equivalents in Q4-19 was MNOK 12.4, which includes a decrease of MNOK 13.3 related to operations and an increase of MNOK 1.6 related to interest received from cash at bank. Total increase in cash and cash equivalents in FY19 was MNOK 284.3, mainly a result of the net capital increase when issuing new shares in connection with the IPO, offset by the negative cash flow from operating activities of MNOK 63.0. Total cash and cash equivalents per 31 December 2019 amount to MNOK 399.6.

Key financials

NOK (000) Unaudited	Q4-19	Q4-18	FY19	FY18
Total revenues	-	-	-	-
Total operating expenses	27 833	13 472	66 217	56 522
Operating profit (loss)	(27 833)	(13 472)	(66 217)	(56 522)
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Diluted and undiluted earnings / (loss) per share (NOK)	(0.9)	(0.8)	(2.7)	(3.5)
Net increase / (decrease) in cash and cash equivalents	(12 440)	(8 132)	284 332	(54 240)
Cash and cash equivalents at end of period	399 607	115 540	399 607	115 540



The Board of Directors and CEO of Ultimovacs ASA

Oslo, 13 February 2020

Jónas Einarsson
Chairman of the Board

Kari Grønås
Board member

Eva S. Dugstad
Board member

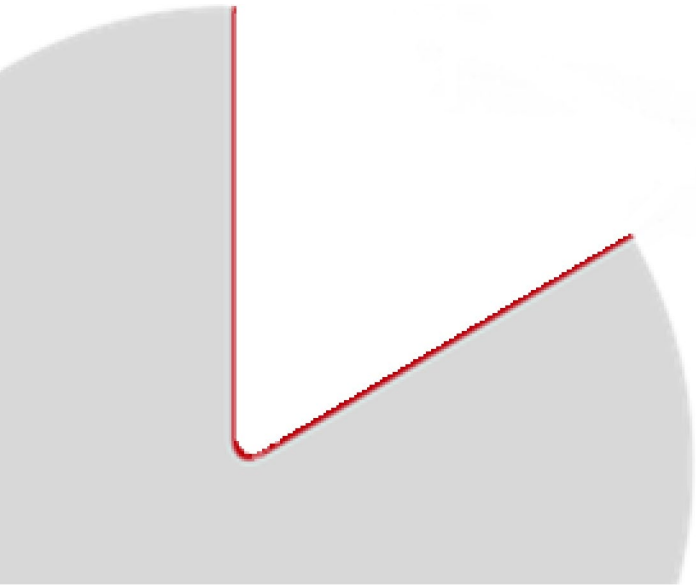
Henrik Schüssler
Board member

Ketil Fjerdings
Board member

Leiv Askvig
Board member

Kristin L. A. Wilhelmsen
Board member

Øyvind Kongstun Arnesen
CEO



Interim condensed consolidated statement of comprehensive income

NOK (000) Unaudited	Note	Q4-19	Q4-18	FY19	FY18
Other operating income		-	-	-	-
Total revenues		-	-	-	-
Payroll and payroll related expenses	3, 5	8 686	7 137	20 160	27 078
Depreciation and amortization		832	129	2 063	601
Other operating expenses	4, 5	18 315	6 205	43 995	28 844
Total operating expenses		27 833	13 472	66 217	56 522
Operating profit (loss)		(27 833)	(13 472)	(66 217)	(56 522)
Financial income		2 671	827	5 631	1 376
Financial expenses		201	58	580	134
Net financial items		2 470	768	5 051	1 243
Profit (loss) before tax		(25 363)	(12 704)	(61 166)	(55 280)
Income tax		-	-	-	-
Profit (loss) for the period		(25 363)	(12 704)	(61 166)	(55 280)
Other comprehensive income (loss) - Translation differences		1 927	2 894	(672)	2 888
Total comprehensive income (loss) for the period		(23 436)	(9 810)	(61 838)	(52 392)
Diluted and undiluted earnings/(loss) pr share (NOK)	6	(0.9)	(0.8)	(2.7)	(3.5)

Interim condensed consolidated statement of financial position

NOK (000) Unaudited	Note	31 Dec 2019	31 Dec 2018
ASSETS			
Goodwill		10 851	10 981
Licenses		52 675	53 307
Patents		2 844	3 111
Property, plant and equipment		536	736
Right to use asset	2, 11	3 523	-
Total non-current assets		70 430	68 136
Receivables and prepayments	7	8 004	6 184
Bank deposits		399 607	115 540
Current assets		407 611	121 724
TOTAL ASSETS		478 041	189 860
EQUITY			
Share capital		2 786	641
Share premium		656 692	314 256
Total paid-in equity		659 478	314 897
Accumulated losses		(219 047)	(157 881)
Other equity		1 985	-
Translation differences		2 216	2 888
TOTAL EQUITY	6, 9	444 633	159 904
LIABILITIES			
Lease liability	2, 11	2 301	-
Deferred tax	2	10 851	10 981
Non-current liabilities		13 152	10 981
Accounts payable		11 768	2 978
Lease liability		1 325	-
Other current liabilities		7 164	15 996
Current liabilities	8	20 257	18 975
TOTAL LIABILITIES		33 409	29 956
TOTAL EQUITY AND LIABILITIES		478 041	189 860

Interim condensed consolidated statement of cash flow

NOK (000) Unaudited	Q4-19	Q4-18	FY19	FY18
Loss before tax	(25 363)	(12 704)	(61 166)	(55 280)
Non-cash adjustments				
Depreciation and amortization	832	129	2 063	601
Interest received incl. investing activities	(1 580)	(1 246)	(4 490)	(1 247)
Net foreign exchange differences	69	48	224	10
Other finance expense	89	-	258	-
Share option expenses	862	-	1 985	-
Working capital adjustments:				
Changes in prepayments and other receivables	959	(1 029)	(1 820)	(1 102)
Changes in payables and other current liabilities	10 833	5 512	(42)	6 630
Net cash flow from operating activities	(13 300)	(9 290)	(62 989)	(50 389)
Purchase of property, plant and equipment	-	(88)	(172)	(513)
Acquisition of subsidiary	-	-	-	(4 586)
Interest received	1 580	1 246	4 490	1 247
Net cash flow used in investing activities	1 580	1 158	4 318	(3 851)
Proceeds from issuance of equity	-	-	370 000	-
Share issue cost	-	-	(25 418)	-
Interest paid	(258)	-	(258)	-
Payment of lease liability	(463)	-	(1 321)	-
Net cash flow from financing activities	(721)	-	343 002	-
Net change in cash and cash equivalents	(12 440)	(8 132)	284 332	(54 240)
Effect of change in exchange rate	23	(62)	(265)	(28)
Cash and cash equivalents at beginning of period	412 025	123 734	115 540	169 808
Cash and cash equivalents at end of period	399 607	115 540	399 607	115 540

Interim condensed consolidated statement of changes in equity

NOK (000) Unaudited	Share Capital	Share Premium	Accum. losses	Other equity	Transl. differenc.	Total equity
Balance at 1 Jan 2018	606	268 475	(102 601)	-	-	166 480
Loss for the period	-	-	(55 280)	-	-	(55 280)
Issue of ordinary shares	35	45 781	-	-	-	45 815
Share issue costs	-	-	-	-	-	-
Recognition of share-based payments	-	-	-	-	-	-
Translation differences	-	-	-	-	2 888	2 888
Balance at 31 Dec 2018	641	314 256	(157 881)	-	2 888	159 904
Balance at 1 Jan 2019	641	314 256	(157 881)	-	2 888	159 904
Loss for the period	-	-	(61 166)	-	-	(61 166)
Issue of ordinary shares	2 145	367 855	-	-	-	370 000
Share issue costs	-	(25 418)	-	-	-	(25 418)
Recognition of share-based payments	-	-	-	1 985	-	1 985
Translation differences	-	-	-	-	(672)	(672)
Balance at 31 Dec 2019	2 786	656 692	(219 047)	1 985	2 216	444 633

Notes

1. General information

Ultimovacs ASA (the Company or Ultimovacs) and its subsidiary (together the Group) is a pharmaceutical Group developing novel immunotherapies against cancer. The company is a public limited liability company listed on the Oslo Stock Exchange in Norway.

Ultimovacs is headquartered at the Oslo Cancer Cluster Innovation Park in Oslo, Norway, and is an active member of Oslo Cancer Cluster.

2. Basis for preparations and accounting principles

The Group's presentation currency is NOK (Norwegian kroner).

These interim condensed financial statements have been prepared in accordance with IAS 34 Interim Financial Reporting. The accounting policies applied in the preparation of these financial statements are consistent with those followed in connection with the Company's 2018 financial statements. These condensed interim financial statements should therefore be read in conjunction with the financial statements. The Group has implemented IFRS 15 Revenue from Contracts with Customers from 2018; however, this has not had any impact as the Group is not generating revenues.

The consolidated financial statements comprise the financial statements of the Ultimovacs ASA and its 100% owned subsidiary Ultimovacs AB as at the reporting date. Note that the Group only consisted of the legal entity Ultimovacs ASA prior to the acquisition in Sweden in July 2018. Historical comparative figures before this date is in this report therefore for Ultimovacs ASA only.

These interim financial statements were approved for issue by the Board of Directors on 13 February 2020.

Estimated value of share-based payments

Estimating fair value for equity settled share-based payments requires determination of the most appropriate valuation model, which depends on the terms and conditions of the grant. This estimate also requires determination of the most appropriate inputs to the valuation model including the expected life of the share option, share price on measurement date, risk-free interest rate, volatility and dividend yield and making assumptions about them.

Equity-settled share-based payments are measured at the fair value of the equity instruments at the grant date. The Group initially measures the cost of equity-settled transactions with employees using a Black Scholes model to determine the fair value of the liability incurred. For equity-settled share-based payment transactions, the liability needs to be remeasured at the end of each reporting period up to the date of settlement, with any changes in fair value recognised in the profit or loss with a

corresponding adjustment to equity. This requires a reassessment of the estimates used at the end of each reporting period.

IFRS 16 Leases

Effective January 1, 2019, the Group applied IFRS 16 using the modified retrospective approach and therefore the comparable information has not been restated and continues to be reported under IAS 17. As a lessee, the Group previously classified leases as operating or finance leases based on its assessment of whether the lease transferred significantly all of the risks and rewards incidental to ownership of the underlying asset to us. Under IFRS 16, the Group recognizes right-of-use assets and lease liabilities for all leases.

The Group used the following practical expedients when applying IFRS 16 to leases previously classified as operating leases Under IAS 17:

- Applied a single discount rate to a portfolio of leases with similar characteristics.
- Applied recognition exemptions to leases that, at the commencement date, have a lease term of 12 months or less and do not contain a purchase option.
- Applied the low value lease exemption not to recognize right-of-use assets at the date of initial application.
- Excluded initial direct costs from measuring the right-of-use asset at the date of initial application.

At transition, lease liabilities were measured at the present value of the remaining lease payments, discounted at the Group's incremental borrowing rate as of January 1, 2019. Right-of-use assets are measured at an amount equal to the lease liability and are subsequently depreciated using the straight-line method from the commencement date to the earlier of the end of the useful life of the right-of-use asset or the end of the lease term.

The estimated useful lives of right-of-use assets are determined on the same basis as those of property and equipment. In addition, the right-of-use asset is periodically reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined, Ultimovacs' incremental borrowing rate. Generally, the incremental borrowing rate is used as the discount rate.

3. Personnel expenses

Personnel expenses

NOK (000)	Q4-19	Q4-18	FY19	FY18
Salaries and bonuses	7 535	5 511	24 545	18 740
Social security tax	1 308	856	4 076	2 919
Pension expenses	166	439	1 798	1 448
Share-based compensation	862	1 867	(8 222)	5 416
Other personnel expenses	177	181	437	415
Government grants	(1 361)	(1 718)	(2 476)	(1 860)
Total personnel expenses	8 686	7 137	20 160	27 078
Number of FTEs at end of period	17	14	17	14

Please refer to note 10 for additional information regarding the share-based payments.

4. Operating expenses

The Group is in a development phase, and the majority of the Group's costs are related to R&D. These costs are expensed in the statement of comprehensive income.

Operating expenses

NOK (000)	Q4-19	Q4-18	FY19	FY18
External R&D expenses	19 745	4 516	35 528	16 957
Clinical studies	15 460	2 273	24 042	7 876
Manufacturing costs	1 583	1 500	5 640	6 793
Other R&D expenses	2 702	743	5 847	2 289
IP expenses	1 289	571	2 712	2 444
Rent, office and infrastructure	563	800	2 333	2 729
Accounting, audit, legal, consulting	544	2 277	3 658	6 641
Other operating expenses	610	1 615	5 066	4 000
Government grants	(4 436)	(3 573)	(5 302)	(3 927)
Total operating expenses	18 315	6 205	43 995	28 844

5. Government grants

The following government grants have been received and recognized in the statement of profit and loss as a reduction of operating expenses and personnel costs.

Government grants

NOK (000)	Q4-19	Q4-18	FY19	FY18
Skattefunn from The Research Council of Norway	5 277	4 946	5 277	4 946
BIA grants from The Research Council of Norway	-	-	-	496
Eurostars	363	285	2 344	285
Other grants	157	60	157	60
Total government grants	5 797	5 291	7 778	5 787

Please refer to note 3 and 4 for information on how the government grants have been attributed to (i.e. deducted from) personnel expenses and other operating expenses.

6. Earnings per share

The basic earnings per share are calculated as the ratio of the profit for the year divided by the weighted average number of ordinary shares outstanding.

Earnings per share

NOK (000)	Q4-19	Q4-18	FY19	FY18
Loss for the period	(25 363)	(12 704)	(61 166)	(55 280)
Average number of shares during the period ('000)	27 860	16 020	22 927	15 587
Earnings/loss per share (NOK)	(0.9)	(0.8)	(2.7)	(3.5)

In the annual general meeting on 21 May 2019, a split of the shares was resolved so that one share with a nominal value of NOK 1 was split into 25 shares with a nominal value of NOK 0.10. The 2018 and 2019 figures in the overview above takes into account the share split in order to be comparable with the number of shares post-split.

When the Company was listed on the Oslo Stock exchange on 3 June 2019, 11,840,000 new shares were issued, increasing the total number of shares to 27,860,400.

In addition to the above, in accordance with the board's proposal, the general meeting approved the establishment of a new share option program. This program commenced on the day of listing, 3 June 2019, where 557,500 options, each giving a right to acquire one share, were allocated to the Group's employees.

The share options issued have a potential dilutive effect on earnings per share. No dilutive effect has been recognized as potential ordinary shares only shall be treated as dilutive if their conversion to ordinary shares would decrease earnings per share or increase loss per share from continuing operations. As the Group is currently loss-making, an increase in the average number of shares would have anti-dilutive effects. Diluted and basic (undiluted) earnings per share is therefore the same.

See note 10 for more information regarding the option program.

7. Current assets

Receivables and prepayments

NOK (000)	31 Dec 2019	31 Dec 2018
Government grants	5 797	5 231
Prepayments	435	475
Other receivables	1 772	478
Total receivables and prepayments	8 004	6 184

8. Current liabilities

Current liabilities

NOK (000)	31 Dec 2019	31 Dec 2018
Accounts payable	11 768	2 978
Public duties payable	2 495	1 708
Share-based compensation liability	-	10 207
Lease liability	1 325	-
Other current liabilities	4 669	4 081
Total current liabilities	20 257	18 975

9. Shareholder information

The share capital as at 31 December 2019 was NOK 2,786,040, with 27,860,400 ordinary shares, all with equal voting rights and a nominal value of NOK 0.1. Ultimovacs ASA has over 2,000 shareholders as of 31 December 2019, and the 20 largest shareholders as of this date are listed below:

Share register as per 31.12.2019

Shareholder	# of shares	Share-%
Gjelsten Holding AS	5 747 599	20.6%
Canica AS	2 232 663	8.0%
Inven2 AS	2 021 775	7.3%
Watrium AS	1 620 925	5.8%
Radiumhospitalets Forskningsstiftelse	1 395 875	5.0%
Langøya Invest AS	1 226 325	4.4%
Helene Sundt AS	782 132	2.8%
CGS Holding AS	782 132	2.8%
SEB Prime Solutions Sissener Canopus	672 855	2.4%
Sundt AS	617 150	2.2%
KLP AksjeNorge	600 000	2.2%
Danske Invest Norge Vekst	600 000	2.2%
Brown Brothers Harriman (Lux.) SCA (Nominee)	490 467	1.8%
Prieta AS	485 175	1.7%
Verdipapirfondet Nordea Avkastning	444 600	1.6%
JP Morgan Chase Bank, N.A., London (Nominee)	429 417	1.5%
Kommunal Landspensjonskasse	400 000	1.4%
Swedbank AB	384 827	1.4%
Verdipapirfondet Nordea Kapital	271 550	1.0%
ABN AMRO Global Custody Services (Nominee)	263 246	0.9%
20 Largest shareholders	21 468 713	77.1%
Other shareholders	6 391 687	22.9%
Total	27 860 400	100.0%

On 5 August 2019, FIL Limited ('FIL') announced that the number of shares and right to shares in Ultimovacs ASA that were attributable to FIL had crossed above the threshold of 5% in Ultimovacs ASA due to purchase of shares. FIL is a privately-owned group comprising of two divisions, Fidelity International and Eight Roads.

10. Shared-based payments

Synthetic share program (terminated program)

At the Annual General Meeting in April 2016 the Board was authorized to introduce a new incentive scheme for employees (Synthetic share plan), based on the value development of the Group's shares. In total twelve employees were granted synthetic shares, which were not physically held by the owner. The employees were entitled, upon exercise, to receive a cash amount corresponding to the increase in the value of the underlying share in the period from the option was assigned to the exercise, and holiday pay on the same amount.

The vesting period for all synthetic shares in all of the individual employee-contracts was up to the expiration date 18 May 2021, regardless of when the synthetic shares were allocated. However, upon discretion of the board of directors, or on the date at which a third-party, or several third parties acting in concert, completes an acquisition of shares in the Group by which such third-party

obtains an ownership of more than 90% of the shares and votes in the Group, the incentive scheme is due and to be settled/terminated. This would trigger the option-strike, resulting in a cash pay-out for all synthetic shares that the holders/employees are entitled to. Based on a discretionary decision made by the board of directors, the IPO of Ultimovacs on Oslo Børs on 3 June 2019 triggered the option-strike. However, as all synthetic shares at the time of listing were valued under the strike price, no cash amount was due to be paid to the synthetic-shareholders and the program was effectively terminated.

The share-based payment liability was classified as a short-term liability in the statement of financial position as per 31 December 2018 and up to the date of listing, and amounted to MNOK 10.2 in this period.

Please refer to the 2018 Financial statement for more information regarding the valuation of the synthetic shares. As each share was valued to NOK 31.25 in the IPO, and strike price for all synthetic shares were NOK 45.32 (corresponding to NOK 1,133 before the share split), all synthetic shares were settled/terminated without any value. Consequently, the liability of MNOK 10.2 was reversed in June 2019.

A new share option program was approved by the General Assembly 2 May 2019 in connection with the planned IPO. The new option program was initiated on 3 June 2019, and all synthetic shares (17,306 in total) were forfeited in connection with the commencement of the new program. Please refer to the second part of note 10 below for more information regarding the new share option program.

Share option program (new program established in H1 2019)

A new share equity settled option program was introduced on 3 June 2019 and replaced the synthetic share program as the long-term incentive plan. The option program was approved by the General Assembly 2 May 2019 in connection with the planned IPO, and the Board was authorized to increase the Group's share capital in connection with share incentive arrangements by up to 10%.

The share option program is groupwide and includes all employees in the Group. A total of 557,500 options for shares in the Company have been distributed amongst the employees, of which 362,500 options are allocated to the management team. The number of options currently granted corresponds to 2.0% of the outstanding number of shares in the Company. Each option gives the right to acquire one share in the Company and are granted without consideration. Pursuant to the vesting schedule, 25% of the options will vest one year after the day of grant, 25% of the options will vest two years after the day of grant and the remaining 50% will vest three years after the day of grant. Vesting requires the option holder still to be an employee in the Company. The exercise price is NOK 31.25 per share which is equal to the IPO price at listing on Oslo Børs on 3 June 2019. Options that are not exercised within 5 years from the date of grant will lapse and become void.

Allocation of options to Management Team

Name	Position	Number of options
Øyvind Kongstun Arnesen	Chief Executive Officer	72 000
Hans Vassgård Eid	Chief Financial Officer	62 500
Jens Egil Torbjørn Bjørheim	Chief Medical Officer	53 000
Audun Tønes	Chief Operating Officer	38 000
Gudrun Trøite	Director Regulatory Affairs and QA	38 000
Ingunn Hagen Westgaard	Head of Research	38 000
Øivind Foss	Head of Clinical Operations	38 000
Gunilla Ekström	Managing Director Ultimovacs AB	23 000

Assumptions, costs and social security provisions:

The Ultimovacs Employee Share Options' fair value is calculated according to the IFRS-2 regulations. As stated in IFRS-2 Appendix B §B5, the Black-Scholes-Merton Option Pricing Model ("B&S Model") may be used to estimate the fair value of employee share options, which is therefore used to estimate the fair value of the Ultimovacs Employee Share Options. The model uses the following parameters; the exercise price, the current price of the underlying shares, the life of the option, the expected volatility of the share price, the dividends expected on the shares, and the risk-free interest rate for the life of the option.

The exercise price is set out in the Ultimovacs Award Agreements with each employee and is stated in the Norwegian Krone. The current price of the underlying shares used in the model is the last available closing price of Ultimovacs at grant date.

The risk-free interest rate used in the B&S Model is equal to the rates of the government bond issues of the country in whose currency the exercise price is expressed, with the term equal to the expected term of the option being valued. Since the exercise price is expressed in Norwegian Krone, the "Norges Bank Statskasseveksler" and "Obligasjoner"-rate is used as input. The interest rates used for the options with term structures outside of the quoted terms of Norges Banks interest rates are calculated with the use of a linear interpolation between the two closest quoted rates.

A dividend parameter is not included in the calculations.

The B&S Model assumes that the time from grant until expiry gives the time parameter in the model. This assumption is based on the options being free from restraints and that the owner of the options holds the right to sell the option in the market at any time. As this is not the case for most employee share options, IFRS-2 Appendix B §B16-18, states that a shorter time period can be used as the expected lifetime of the options in some cases. Half a year after vesting date is therefore assumed to be the estimated end-of-lifetime of each option in the model. However, exercise patterns will be monitored, and expected option lifetime will be updated if needed for future grants.

For valuation purposes, expected future volatility of 58.46%, 59.02% and 69.25% has been applied for the three tranches with vesting after 1, 2 and 3 years respectively. As Ultimovacs has not been listed on a stock exchange long enough to have a sufficient share price history to calculate the shares' volatility, comparable firms' share price volatility have been used to estimate the expected volatility.

The total expense recognized for the option program from its commencement on 3 June 2019 to 31 December 2019 was MNOK 2.2, including social security accruals of MNOK 0.2. No new options have been granted in Q4-19.

Movement of share options

	Number of share option	Weighted average strike price
Outstanding at opening balance 01.01.2019	-	-
Granted	557 500	31.25
Exercised	-	-
Forfeited	-	-
Outstanding at closing balance 31.12.2019	557 500	31.25
Vested at closing balance	-	-

11. IFRS 16 – rental contracts

The Group has implemented IFRS 16 in 2019 with the modified retrospective approach. Hence, the comparative figures for 2018 have not been adjusted. The most significant agreement classified as operating lease is the rental agreement for office premises in Oslo with 4 years left in the rental contract as of 1 January 2019. In addition, there are four car-leasing contracts also classified as operating leases. With the transition to IFRS 16, the Group has recognized these contracts as a right-of-use assets of MNOK 4.6, and lease liabilities of MNOK 4.6 as of 1 January 2019.

The weighted average discount applied at 1 January 2019 was 6.0%. A further description of the impact of the initial application is disclosed in the tables below.

Impact of IFRS16 as per 1 January 2019

NOK (000)	01.01.2019
Operating lease commitment as at 1 January 2019	5.2
+ Extension options reasonably certain to be exercised	-
- Discounting using the incremental borrowing rate	(0.5)
Lease liabilities recognized at initial application	4.6
The weighted average incremental borrowing rate applied:	6.0%
Right-of-use assets recognized at initial application	4.6

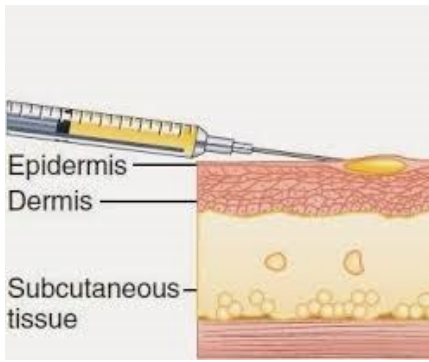
The subsidiary Ultimovacs AB has not been affected by the implementation of this standard as the company has no material long term contracts. As at 31 December 2019, the Group has non-cancellable operating lease commitments of MNOK 3.6 relating to the rental contract for the office spaces in Oslo, Norway, as well as the four car lease contracts. The Group's loss for the period decreased by MNOK 0.1 in FY19 period as a result of implementing the new standard.

12. Events after the balance sheet date

No events with significant accounting effect have occurred after the balance sheet date.

Glossary

Words/terms	Description
<i>General/basic terms</i>	
UV1	UV1 is Ultimovacs' synthetic peptide vaccine
Peptides	Peptides are short or long-chains of amino acids, and amino acids are the building blocks of protein.
Immune response	The activity of the immune system against foreign substances (antigens).
Adjuvant	A medical substance used to enhance the effect of another medical substance.
GM-CSF	"Granulocyte-macrophage colony-stimulating factor". Ultimovacs uses GM-CSF as adjuvant together with UV1 to strengthen the ability of UV1 to stimulate the immune system.
Immune checkpoint inhibitors	Medicines that "takes the brakes off the immune system". The immune system has brakes necessary to balance a normal immune response. The downside to these brakes is that it makes it easier for a tumor to grow because the immune system becomes less able to fight the tumor. By "blocking the brakes", the immune system becomes more potent in killing tumor cells. PD1 / PDL1 inhibitors (Keytruda and Opdivo) and CTLA4 inhibitors (Yervoy – ipilimumab) are examples of Checkpoint inhibitors. There are many others in development.
CTLA-4	A protein found on T cells (a type of immune cell) that helps balancing a normal immune response. The balance is needed to avoid collateral damage of normal cells. When CTLA-4 is bound to another protein called B7, it helps keep T cells from multiplying and killing other cells, including cancer cells. Ipilimumab works by making it difficult for the CTLA4 to bind to B7. Ipilimumab (Ipi/Yervoy) was the first checkpoint inhibitor to reach the market.
PD-1 / PD-L1	A protein found on T cells (a type of immune cell) that helps balancing a normal immune response. The balance is needed to avoid collateral damage of normal cells. When PD-1 is bound to another protein called PD-L1, it helps keep T cells from killing other cells, including cancer cells. Some anticancer drugs, called immune checkpoint inhibitors, are used to block PD-1 or PD-L1. When this checkpoint is blocked, the "brakes" on the immune system are released and the ability of T cells to kill cancer cells is increased.
Telomere	To prevent the loss of genes as chromosome ends wear down, the tips of eukaryotic chromosomes have specialized DNA "caps" called telomeres.
Telomerase	Some cells have the ability to reverse telomere shortening by expressing telomerase (hTERT), an enzyme that extends the telomeres of chromosomes. Telomerase is expressed at a high level in over 85% of human tumors. UV1 uses telomerase (hTERT) as an immune therapy target.
<i>Checkpoint inhibitors</i>	
Yervoy (ipilimumab)	Anti-CTLA-4 checkpoint inhibitor from BMS (Bristol-Myers Squibb)
Opdivo (nivolumab)	Anti-PD-1 checkpoint inhibitor from BMS (Bristol-Myers Squibb)
Keytruda (pembrolizumab)	Anti-PD-1 checkpoint inhibitor from Merck
Tecentriq (atezolizumab)	Anti-PD-L1 checkpoint inhibitor from Roche

Bavencio (avelumab)	Anti-PD-L1 checkpoint inhibitor from Merck (Germany)/Pfizer/Eli Lilly
Imfinzi (durvalumab)	Anti-PD-L1 checkpoint inhibitor from AstraZeneca
<i>Clinical trial terms</i>	
CR	Complete response (The disappearance of all signs of cancer in response to treatment. Also called complete remission.)
PR	Partial response (A decrease in the size of a tumor, or in the extent of cancer in the body, in response to treatment. Also called partial remission.)
SD	Stable disease (Cancer that is neither decreasing nor increasing in extent or severity.)
PD	Progressive disease (Cancer that is growing, spreading, or getting worse.)
ORR	Overall response rate = CR + PR
DOR	Duration of response (The length of time that a tumor continues to respond to treatment without the cancer growing or spreading.)
OS	Overall survival (The length of time from either the date of diagnosis or the start of treatment for a disease, such as cancer, that patients diagnosed with the disease are still alive. In a clinical trial, measuring the overall survival is one way to see how well a new treatment works.)
PFS	Progression-free survival (The length of time during and after the treatment of a disease, such as cancer, that a patient lives with the disease but it does not get worse. In a clinical trial, measuring the progression-free survival is one way to see how well a new treatment works.)
<i>Medical terms</i>	
Intradermal	<p>In order to initiate an immune response, a vaccine must be taken up by antigen presenting cells (dendritic cells). UV1 is administered via the intradermal route, i.e. injection in the dermis, one of the layers of the skin. This layer, underneath the epidermis, is highly vascularized and contains a large amount of immune cells, mainly dermal dendritic cells.</p> 
Biopsy	A piece of tissue, normal or pathological removed from the body for the purpose of examination.
IgE	Immunoglobulin E (IgE) are antibodies produced by the immune system. If you have an allergy, your immune system overreacts to an allergen (what you are allergic to) by producing IgE. These antibodies travel to cells that release chemicals, causing an allergic reaction when an allergen enters the body.

Metastasis/ Metastatic cancer	The development of malignant growths at a distance from a primary site of cancer/ Metastatic cancer is cancer that spreads from its site of origin to another part of the body.
SAE	<p>A serious adverse event (SAE) in human drug trials is defined as any untoward medical occurrence that at any dose</p> <ol style="list-style-type: none"> 1. results in death, 2. is life-threatening 3. requires inpatient hospitalization or causes prolongation of existing hospitalization 4. results in persistent or significant disability/incapacity, 5. is a congenital anomaly/birth defect, or 6. requires intervention to prevent permanent impairment or damage. <p>The term "life-threatening" in the definition of "serious" refers to an event in which the patient was at risk of death at the time of the event; it does not refer to an event which hypothetically might have caused death if it were more severe. Adverse events are further defined as "Any untoward medical occurrence in a patient or clinical investigation subject administered a pharmaceutical product and which does not necessarily have to have a causal relationship with this treatment."</p>
PSA	Prostate-specific antigen (PSA) is an enzyme (protein) important for reproduction. PSA is present in small quantities in the serum of men with healthy prostates, but is often elevated in the presence of prostate cancer or other prostate disorders.

Disclaimer

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Contact us



Ultimovacs ASA
Ullernchausséen 64
0379 Oslo
Norway



mail@ultimovacs.com



tel: +47 413 80 080

About Ultimovacs

Ultimovacs is a pharmaceutical company developing novel immunotherapies against cancer. The lead product candidate is UV1, a peptide-based vaccine inducing a specific T cell response against the universal cancer antigen telomerase. UV1 is being developed as a therapeutic cancer vaccine which may serve as a platform for use in combination with other immuno-oncology drugs which require an ongoing T cell response for their mode of action. Ultimovacs is performing a broad clinical development program with clinical trials in Europe and the USA.

Ultimovacs was established in 2011 and is a public limited liability company listed on the Oslo Stock Exchange in Norway. The company and its proprietary technology is based on pre-clinical and clinical research on immunotherapies conducted at the Oslo University Hospital.

Ultimovacs is headquartered at the Oslo Cancer Cluster Innovation Park in Oslo, Norway, and also has an office in Uppsala, Sweden. Ultimovacs is an active member of Oslo Cancer Cluster.