

BLUE WAVE
T H E R A P E U T I C S

Non-confidential company presentation

July 2024

Non-confidential



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Blue Wave Therapeutics (BWT) at a Glance

Innovative Platform

- **Targeted RadioActive Biopolymer Nanoparticles** delivering radionuclide payload to tumor cells
- **IP** granted for **multiple peptide sequences** as targeting moieties, and **different payloads**

Validated Mechanism of Action

- Well understood mechanism of action: killing cancer cells by **alpha or beta radiation**
- Radionuclide therapy has demonstrated **strong activity** in many cancer types

Unmet Medical Need, Extendible Pipeline

- Targeted POC indication of first product candidate (**ARAspheres**) is **relapsed glioblastoma**
- Platform has potential to treat **multiple solid tumors** overexpressing one of multiple targeting moieties, with multiple **administration modalities**

Experienced Team

- Seasoned biotech leaders, track record of **project development** and **capital raise**
- **Nuclear medicine and oncology expertise** gained in leading biopharma companies

Attractive Investment Opportunity

- Numerous **inflection points** in the next 30 months
- **Multiple** radiopharmaceutical companies, such as Point, RayzeBio, Fusion, and Mariana Oncology, recently **exited** with **valuations** exceeding the billion dollar mark

In memoriam: Luigi Costa

- Blue Wave Therapeutics commemorates **Luigi Costa**, a visionary **co-founder** and former member of its Management Board, who passed away in February 2024.
- His leadership was pivotal in shaping the early successes and strategies, and his legacy inspires the company's ongoing pursuit of excellence.



Skilled and Passionate Team

Team with solid experience in radionuclide technology, oncology drug development & commercialization, capital raise (>USD 300m)



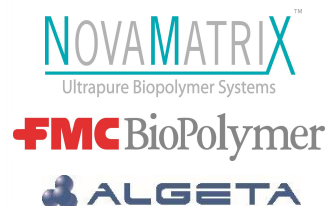
Marco G Renoldi, MD

Chief Executive Officer



Michael Dornish, PhD

Chief Scientific Officer
Co-Founder



Jostein Dahle, PhD

Chief Technology Officer
Co-Founder



Luca Sereni, EE, MBA

Chief Operating Officer
Co-Founder



Stefania Poli, MPsych

Chief Human Resources Officer



Robust IP Estate

- **Norwegian Patent:** achieved patent NO 347755 on March 18, 2024, securing Blue Wave's innovation in peptide-coupled alginate nanoparticles comprising radionuclides.
- **PCT Application:** Progressed into the national application phase of WO2023066994A1 in April 2024, strategically protecting Blue Wave's intellectual property globally.
- Existing IP estate grants Blue Wave's platform **unique flexibility**
 - enabling the inclusion of a series of **radioisotope payloads**, such as **alpha emitters**, including actinium-225, as well as **beta emitters**
 - it also accommodates alternative targeting peptides, including those that bind to **RGD, LDL, MMP-2, IL13R2a, VDAC1, NBD, c-MYC, CXCR4, and MDGI**, along with combinations of these peptide sequences.

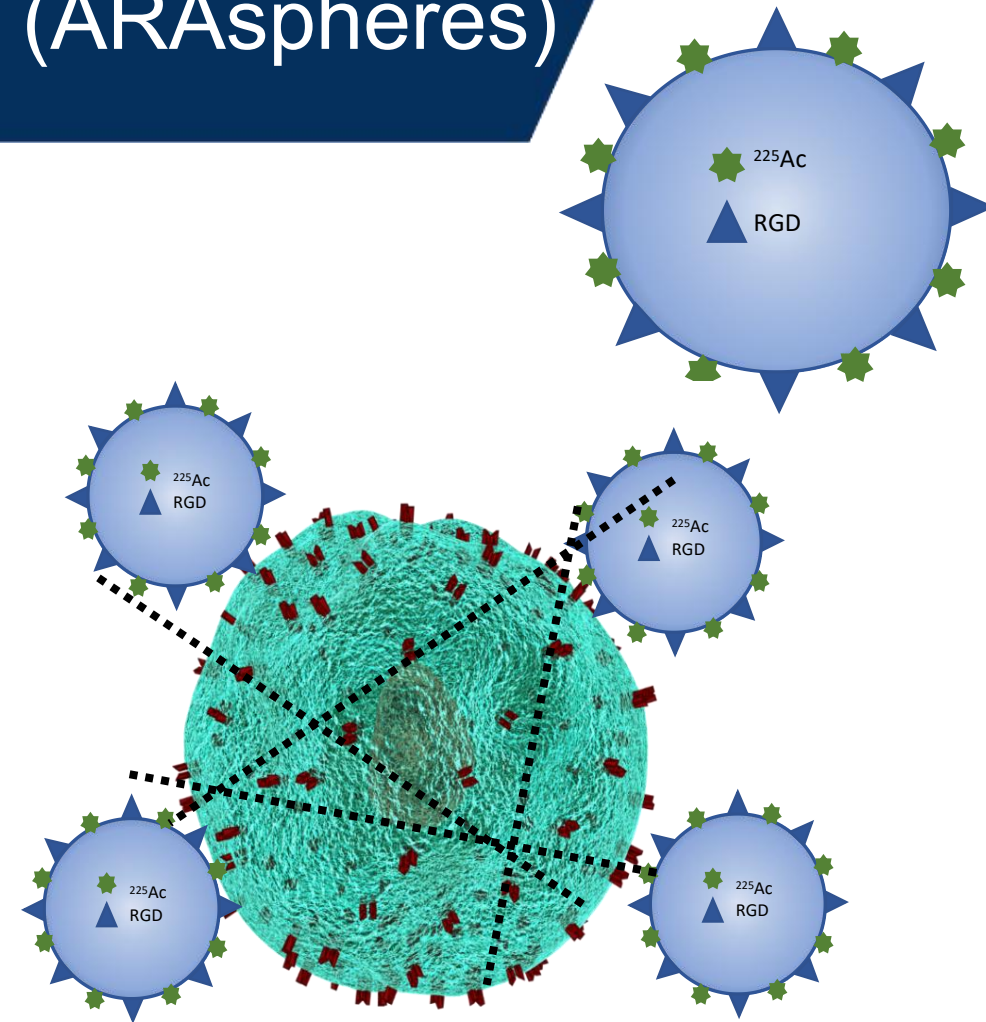
BWT is advancing its 1st product candidate: ^{225}Ac -RGD-Alginate Nanospheres (ARAspheres)

Carrier: nanometer-sized alginate nanoparticles which can diffuse in the brain

- The nanoparticles carry a **targeting peptide (RGD)** which binds to specific tumor cell receptors (integrins), highly expressed on glioblastoma cells
- RGD is a **clinically validated target** also being pursued by other companies

Payload: alpha particle radiation emitting radionuclide (**Actinium-225**), with a **T1/2 of 10 days**

- **Range:** a few cell diameters
- **Mechanism of action:** cell death by **alpha** radiation-induced unreparable **DNA damage** to tumor cells



Glioblastoma (GBM): Clinical Proof of Concept (POC) for a Highly Unmet Medical Need

- Glioblastoma is an **infiltrative** tumor, which metastasizes **locally** in the brain, surrounding the primary lesion
- The tumor grows **quickly** and can double size in 10 days
- More than **79,000** incident cases in 2023, expected to exceed 86,900 cases by 2028*
- Only 30% of patients are alive after 2 years
- Patients with glioblastoma have **limited** therapeutic options; 98 % die of the disease

* Source: Global Data; epidemiology data refer to the following countries: Australia, Brazil, Canada, China, France, Germany, India, Italy, Japan, Mexico, Russia, South Africa, South Korea, Spain, UK, US



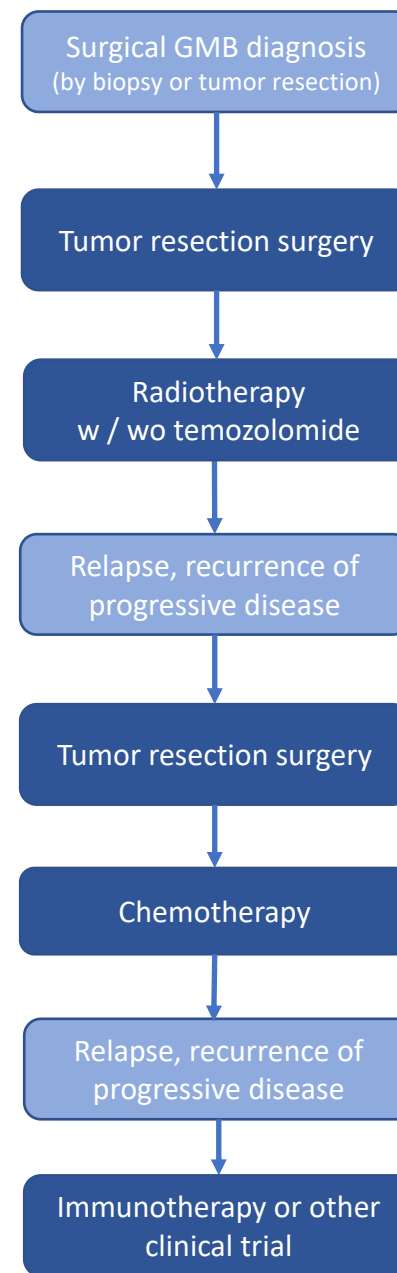
GBM: A Sizable Business Opportunity

- The Glioblastoma market is forecast to reach approx. **\$3b** by 2031*
- The growth will be driven by the anticipated launch of a few pipeline agents, including **enzyme inhibitors**, followed by **cytotoxic T-cells** and **protein and peptide inhibitors**
- Novel therapies showing a significant survival improvement are likely to be granted a **price premium** over currently approved drugs

• Source: Global Data; revenue estimates refer to the following countries: US, China, Japan, Germany, France, Italy, Spain, UK, and assume ex-manufacturing prices for newly introduced treatments for orphan oncology indications (in the US) in the \$150,000-200,000 range

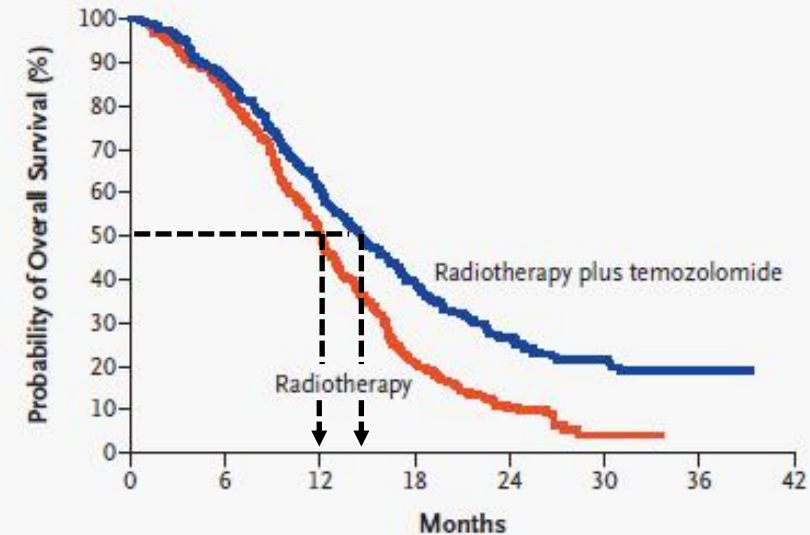
GBM: Current Standard of Care Overview

- **Standard treatment guidelines** are followed globally for GBM
- Approx. **80-90%** of GBM patients undergo **surgery**, followed after 6-8 weeks later by **radiation therapy** and **chemotherapy**
- The majority of patients experience treatment failure as glioblastoma often recurs
- Approx. **30-40%** of GBM patients undergo a **second surgical resection**, followed by **chemotherapy**
- The current standard of care is suboptimal: the average **survival rate** for relapsed GBM patients is only **4-6 months**
- As a result, patients are actively searching for **alternative** treatment options



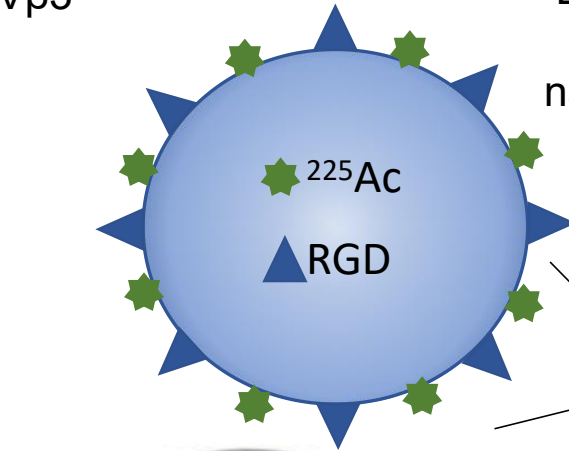
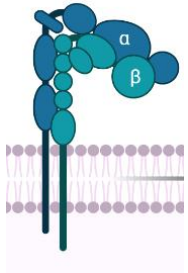
Current GBM Therapies: Understanding Their Limitations

- Surgical resection will by default leave **remaining** tumor cells
 - it may not be possible to give high enough dose to all remaining tumor cells with **external beam radiation**
 - **chemotherapy** may not be effective on remaining cells, due to resistance
- Moreover, both treatments are started **4-8 weeks after** surgery, so residual tumor cells can **re-grow**
- These treatments do not differentiate between healthy and tumor cells, resulting in **severe side-effects**

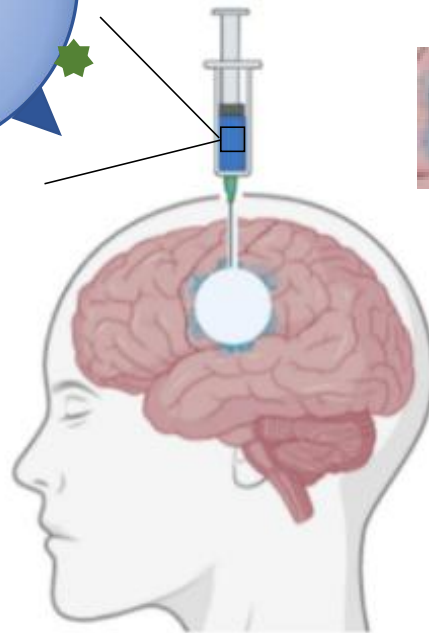
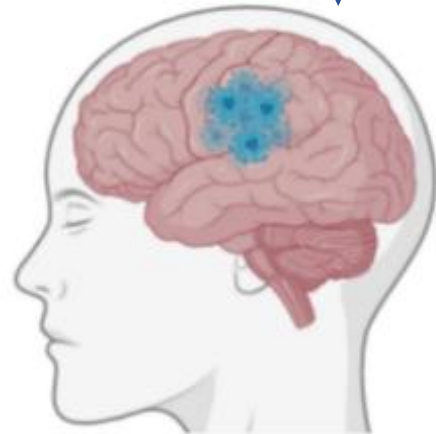


ARAspheres: Overcoming Limitations of Current GBM Treatments

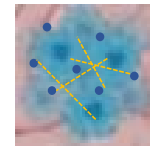
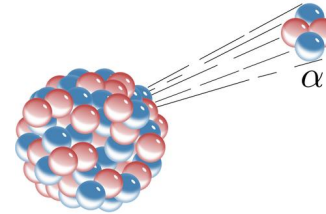
Clinically validated target: Integrin α V β 3



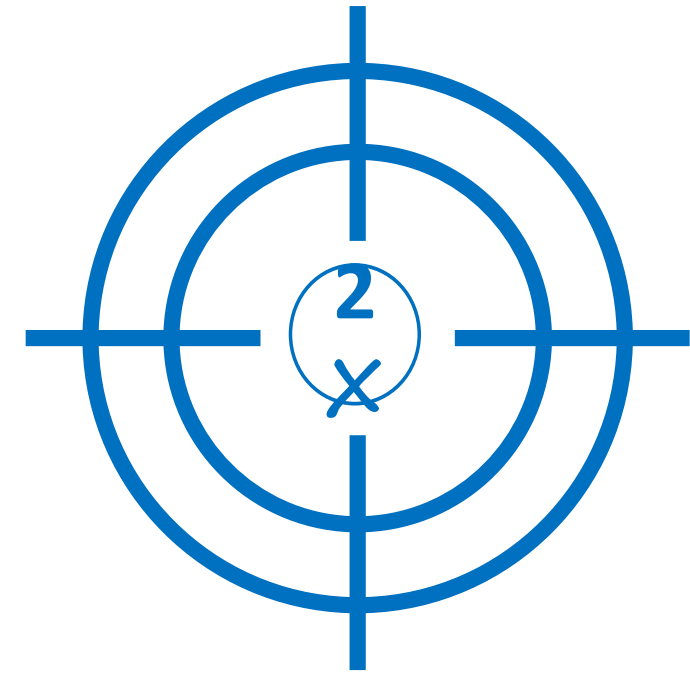
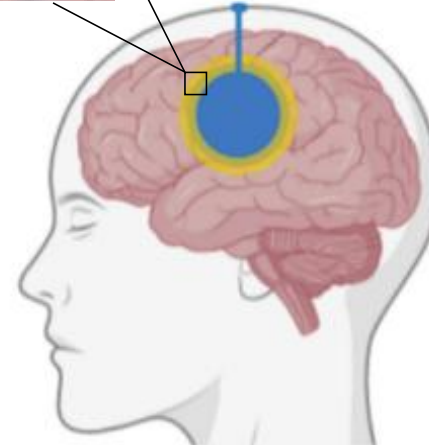
Direct injection of radioactive nanoparticles after surgery



Actinium-225 ($T_{1/2} = 10$ days)



Alpha-radiation of remaining tumor cells



↑ LIFE EXPECTANCY

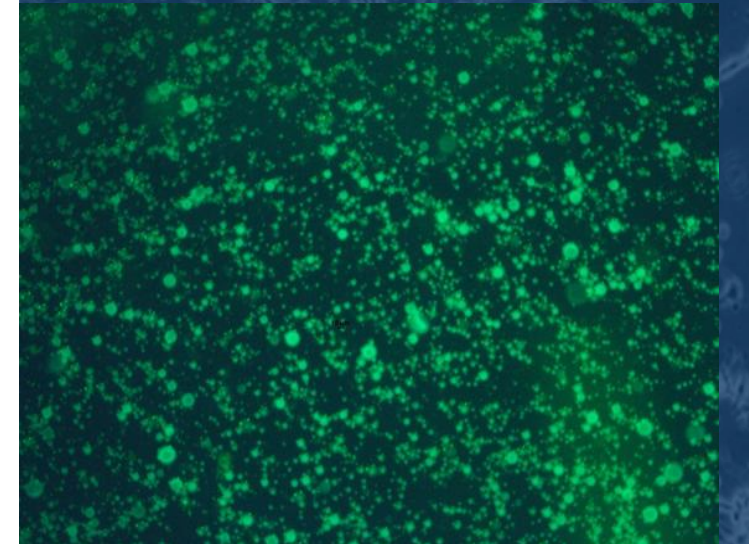
GBM Competitive Landscape Analysis

- The high unmet **medical need** is demonstrated by the **high number of projects** in development, both in preclinical and clinical research*
- However, the **attrition rate** remains high, and **most drugs fail** during the development process. For this reason, innovative approaches are essential for meaningful clinical progress
- **Radiopharmaceuticals** continue to generate a high level of interest in oncology and some of them are being tested in GBM, **none** using RGD-targeting **alginate** as a carrier nor **alpha radiation** emitters as a payload
- Our technology – **integrin targeting radioactive biopolymer** - is unique and not pursued by other competitors

* 19 in phase III, 171 in phase II, 803 from discovery through pre-registration; source: Global Data, 2024

Value Proposition of ^{225}Ac -RGD-Alginate Nanospheres (ARAspheres)

- ARAspheres have the potential to **distinguish** from existing options
- While a radioactive suspension, it is **pre-formulated and ready-to use**
 - can be easily **administered** into the tumor **resection cavity** following surgery
 - **does not require** a second surgery (**biodegradable**)
- Optimized to **spare normal tissues** by specifically **targeting** tumor cells with a **short-range** alpha radiation
- Holds potential for improved efficacy due to **nanometer size**, enabling diffusion into the brain to bind to remaining tumor cells, and **continuous** delivery of alpha radiation, starting from the day of injection
- Can be **combined** with standard of care, thus enhancing anti-tumor effect

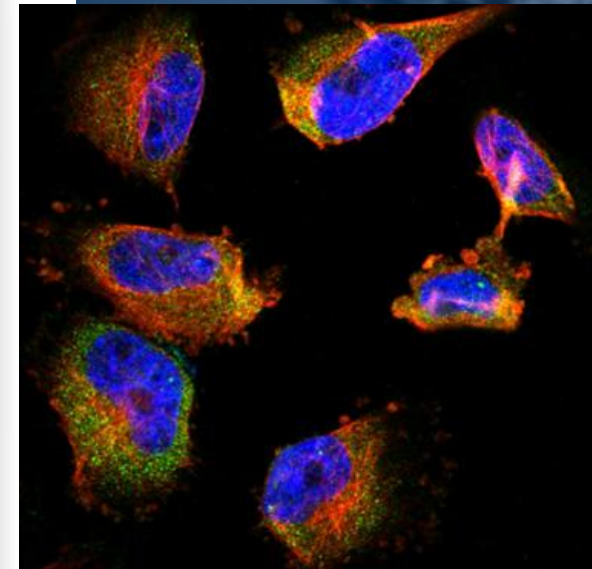


Fluorescence-labelled alginate particles

Strategic collaborations (1/2)

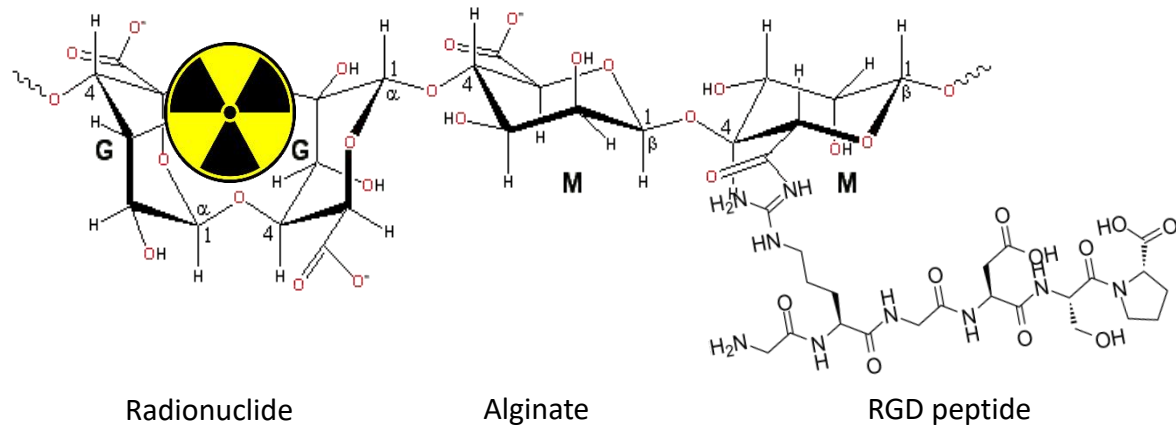
- **Nova Matrix:**

- Blue Wave's **R&D laboratory** was established at Nova Matrix's premises in Sandvika, Norway and a collaboration started with **Terje Svendsen**, the former head of manufacturing at Nova Matrix (which supplies ultrapure alginate to the medical industry), with the goal to advance Blue Wave's biopolymer-based nanoparticle technology
- During the past 12 months **nanoparticle size was reduced** from 10 μm to 300 nm, enhancing potential therapeutic efficacy
- Prototypes of alginate nanoparticles have been **labelled with alpha radiation emitters** and stability has been tested with success; decay daughter radionuclides were also bound by the alginate carrier

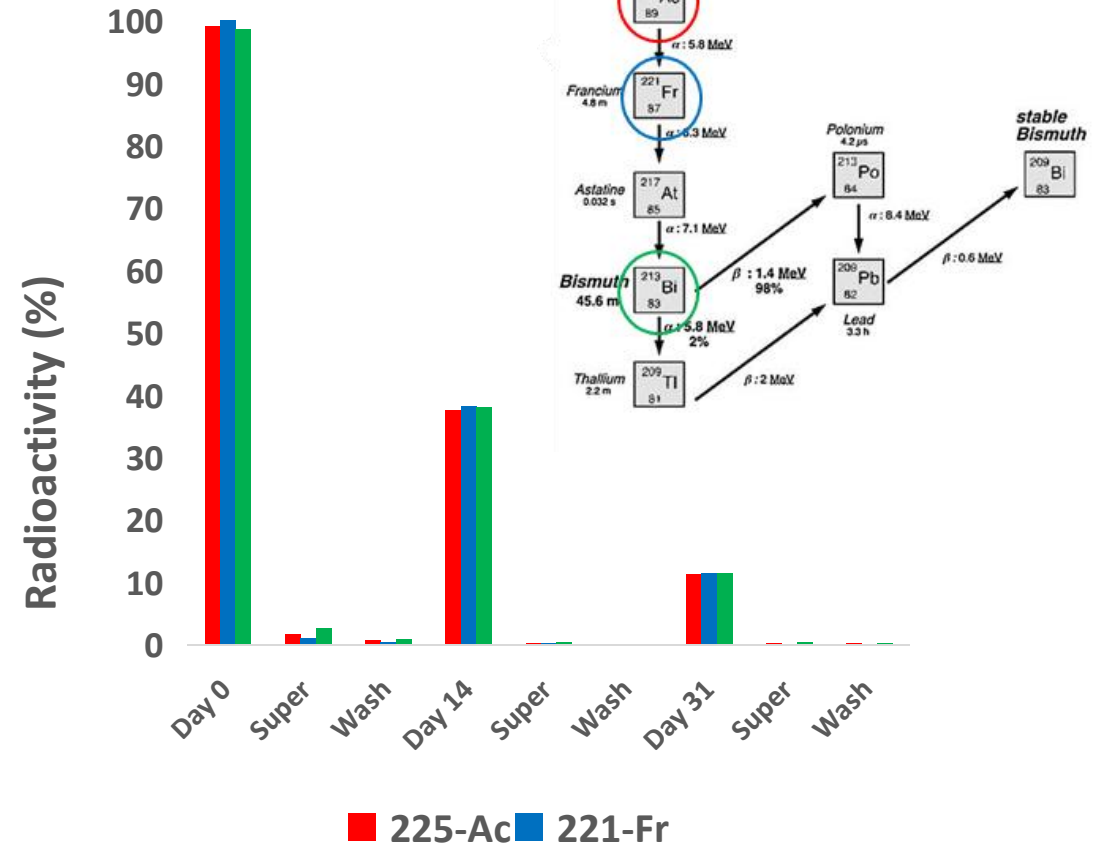


Integrin expression in glioblastoma cells

Alginate Nanoparticles: Solving the Problem of Chelating ^{225}Ac and Daughter Nuclides



No un-targeted toxicity caused by free radionuclides



Strategic collaborations (2/2)

- **Minerva Imaging:**

- Blue Wave initiated in April 2024 its **preclinical research program** by signing an R&D collaboration agreement with **Minerva Imaging**, a contract research organization (CRO) specialized in **molecular imaging and radionuclide therapy research**, located in Denmark
- The goal is to investigate the **biodistribution, toxicity, and therapeutic effects of ARAspheres** in animal models of glioblastoma

- **SINTEF:**

- Blue Wave also collaborates with **SINTEF's Department for Nanomedicine in Trondheim**, Norway, which has long experience with **nanomaterials and biopolymers**. SINTEF is one of Europe's largest independent research institutes
- The goal is to optimize the **characteristics and production methods of ARAspheres** with respect to binding to brain tumor cells

Funding overview

- **Pre-seed B**

- Blue Wave successfully raised **CHF 183,000** through a two-tranche capital increase, which started in late 2023 and concluded on February 23, 2024
- This follows a 2022 Pre-Seed A yield of **CHF 250,000**
- The Pre-Seed B funds were secured from both **existing and new partners**, including one **strategic investor** committed to advancing innovative cancer therapies.

- **Non-dilutive funding:**

- Blue Wave secured in March 2024 a **non-dilutive grant** of approximately **CHF 1.3 million** from the Norwegian Research Council
- This grant requires **matching external funding** of approximately **CHF 1.5 million**
- The grant is targeted to the execution of an **IND-enabling R&D program** and the achievement of **specific R&D milestones**

R&D Programs and Milestones (1/2)

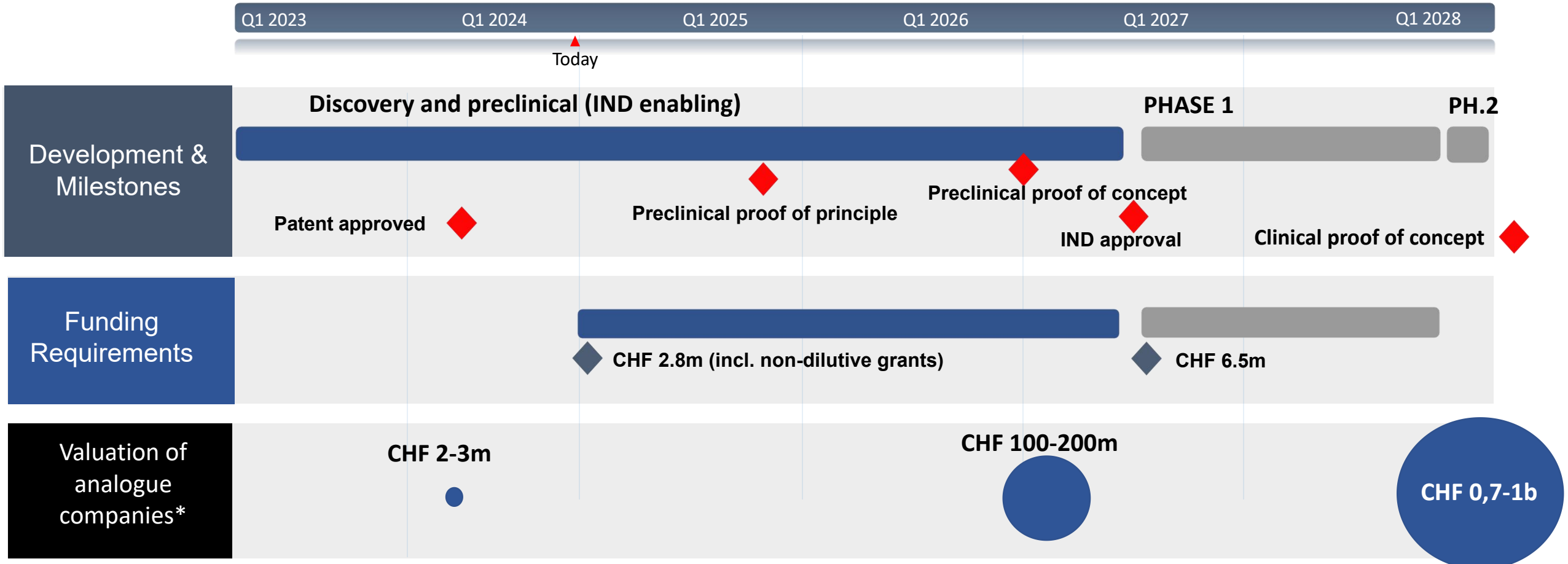
Thanks to the grant from Norway's Research Council and matching external funding, Blue Wave is poised to achieve **pivotal milestones** in 2024 and beyond:

- **Production Optimization:** Target **Q4 2024** for **scaled production of RGD-alginate nanoparticles**, enhancing manufacturing efficiency and capacity
- **Radionuclide Labelling:** Anticipate **Q2 2025** for **finalization of optimal labelling processes**, ensuring maximal radionuclide binding efficacy for enhanced therapeutic outcomes
- **Toxicity Assessment:** Initiate comprehensive **toxicity studies in rodent models (Q2 2025)**, crucial for regulatory compliance and safety assurance in future clinical trials
- **Preclinical Proof of Principle:** Aim for **Q2 2025** to validate **therapeutic efficacy and targeted delivery of ARAspheres** in preclinical glioblastoma models, pivotal for advancing towards clinical readiness

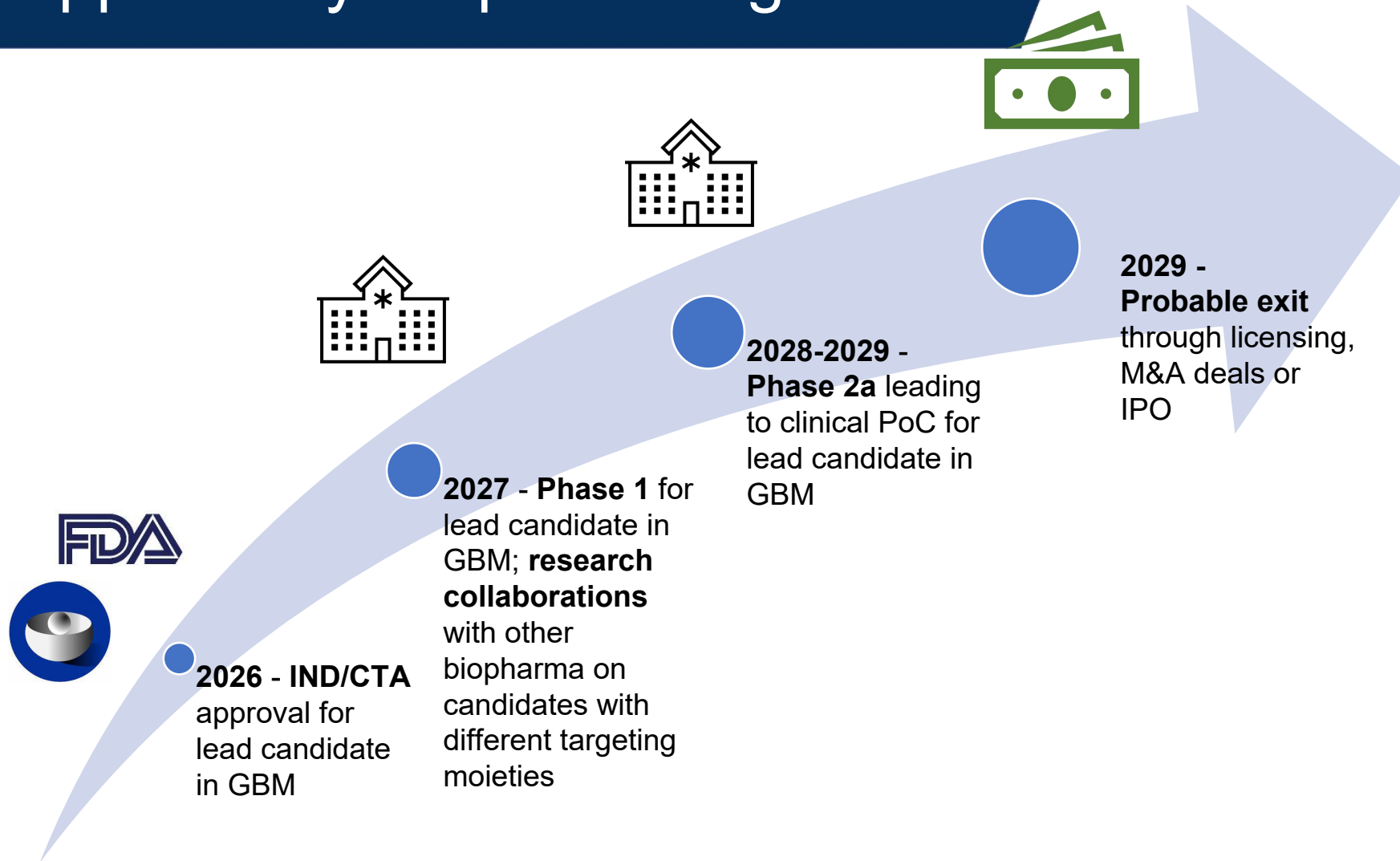
R&D Programs and Milestones (2/2)

- **In vitro 3D Glioblastoma Model:** Establish by **Q3 2025** to simulate **tumor microenvironments** and assess nanoparticle penetration and efficacy, facilitating translational research advancements
- **Manufacturing Readiness:** Achieve **readiness for technology transfer** to Contract Manufacturing Organizations (CMOs) by **Q1 2026**, ensuring a seamless transition to commercial-scale production capabilities

Development Timelines and Funding Requirements



BWT represents an attractive opportunity for partnering



Investment Proposition

Radiopharmaceutical Innovation

- **Strong IP**, enabling **scalable platform** expansion
- Successful **prototype validation** (nanoparticle size, peptide coating and labelling)
- **First product candidate** targeting an indication with high unmet need (**GBM**)
- Team expertise in **radiooncology** and **financing**
- **Attractive partnership** opportunity
 - multiple radiopharma companies recently exited with valuations exceeding one billion dollars
- Seeking **CHF 1.5M** pre-seed funding (first tranche in Q4 2024)
 - to match CHF 1.3m grant from Norwegian Research Council



Thank You

For further information, visit our website
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