reglagene

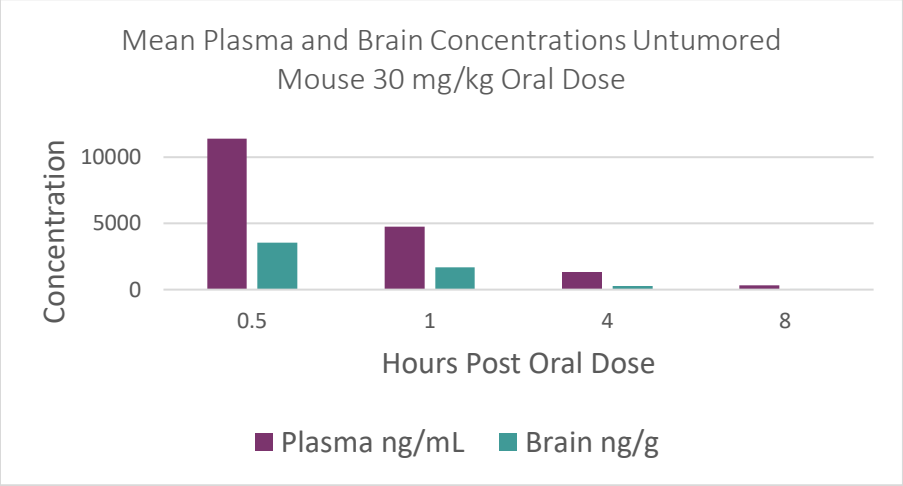
Transforming Tubulin Therapy
For Glioblastoma

Executive Summary

Reglagene is a preclinical stage therapeutics company developing a breakthrough therapy for the safe and effective treatment of glioblastoma, the deadliest brain cancer. Reglagene has built an efficient drug development engine that interweaves internal R&D capabilities with renowned global CRO service providers (Viva Biotech, WuXi, and Reaction Biology) and academic partners (University of Arizona, TGen, and the Huntsman Cancer Center). This engine enabled the design, manufacture, and testing of over 800 molecules to identify an orally administered, safe, potent, cancer medicine that works through inhibition of tubulin, the number one clinically validated target in the history of cancer therapy.

Blood-Brain Barrier (BBB) Penetrant Cancer Therapy with Broad Application

The problem with treating brain cancers is the blood-brain barrier (BBB), a natural filter that keeps toxins, and otherwise effective therapies, out of the brain. Differentiating Reglagene's therapy is its uniquely outstanding brain penetration. Reglagene's first therapy works by blocking the polymerization of the protein tubulin into microtubules, the molecular highways that shuttle materials from one part of a cell to another. When microtubule formation is disrupted, cancer cells arrest during replication and go into programmed cell death. Literally millions of lives have been saved and cancers cured by FDA-approved therapies that target tubulin. Except for patients with brain tumors. In those cases, the FDA-approved tubulin therapies are useless as they don't cross the BBB. The ability to introduce a potent tubulin-targeting therapy safely and in high quantity into the brain is Reglagene's achievement. Reglagene's therapy is positioned for the treatment of primary and secondary brain tumors. In preclinical animal models, the therapy is well-absorbed after oral administration and readily crosses the BBB to safely deliver drug to the brain at a concentration >100 times the amount needed to kill cancerous cells.



Candidate RGN6024

- Plasma Cmax = 28 μM
- Brain Cmax = 8.8 μM
- Median In vitro IC_{50} = 0.045 μM
- AUC Brain to Plasma = 0.3
- Tmax = 15 minutes

Product Development Plan

Over a four-year period, Reglagene designed, manufactured, and tested 800 drug prototypes to identify the best five with properties and data packages to qualify them as clinical development candidates. These five prototypes are distributed across two structural families. We are finishing the selection process to choose the lead clinical development candidate that will continue Investigational New Drug (IND) enablement and a backup by November 2022 and file an IND in the 3rd Quarter 2023. Reglagene is actively raising a $5M equity investment to support this development phase.

Reglagene will dose cancer patients who are candidates for tubulin-targeting therapy in Q4 2023 as part of a standard Phase 1A 3+3 dose escalation study. A three-arm Phase IB study will commence next. The first arm will be recurrent glioblastoma patients receiving Reglagene's drug as monotherapy. The second and third arms will be breast and lung cancer patients with well-controlled metastases in combination with standard of care.

Glioblastoma as a Beachhead to a $7B Market Potential

Glioblastoma is an orphan indication with a treatable patient population in major markets of about 7,200 patients per year. Breast and lung cancers are the two cancers that metastasize most frequently into the brain with a treatable patient population of about 64,400. Total peak annual sales are estimated at $7 billion.

Low Cost of Goods and Fresh Intellectual Property

The clinical development candidate will be manufactured in 4 steps from commercially available materials. Factoring in zero stereocenters or geometric isomers to complicate product purification, cost of goods is anticipated to be low. The two chemical families from which the top clinical candidate will be chosen are novel chemical structures. The patent application on one family was filed in December 2021. The patent application on the second will be filed in September.

Competition and Clinical Validation

Reglagene's first product is differentiated from its competitors by far and away possessing the best brain penetration. These competitors have advanced colchicine binding site, tubulin polymerization inhibitors into the clinic. Each has experienced clinical success, achieved FDA accelerated development or approval status, and held or increased their market capitalizations in the recent downturn of the biotech therapeutics market. Reglagene aims to own the brain sector with its colchicine binding site tubulin inhibitor and sees these three companies as validators owing to their successes outside the brain.

Company	**PTC Therapeutics**	**Basilea Pharma**	**Veru Inc.**	
Therapy	**Unesbulin**	**Lisavanbulin**	**Sabizabulin**	**RGN6024**
Un-tumored Brain Penetration (Rel)	**ND**	**4x**	**1x**	**26x**

Second Product: COVID Brain Fog and Long COVID

Colchicine binding site tubulin inhibitors dampen the inflammatory response including the cytokine storm associated with COVID-19 infection. Veru Pharma recently completed a Phase III study of Sabizabulin in COVID induced Acute Respiratory Distress Syndrome. A 55% reduction in death versus placebo led to an early stoppage of the trial, an FDA Emergency Use Authorization, and recommendation for immediate filing of a New Drug Application. Veru Pharma's stock price tripled on this news. Brain fog and long COVID are the greatest unmet needs in treating the complications of COVID. Reglagene's therapy, which blocks the cytokine storm with equal potency as Sabizabulin, freely crosses the brain and can treat COVID complications that are out of reach for Veru. The path to Reglagene's second product is short as we will choose from existing prototypes to identify a clinically useful therapy for treating brain fog and long COVID.

Management Team with Careers to Meet Reglagene's Innovative Vision

- CEO **Richard Austin**, PhD, MBA – 29-year veteran with GSK and Sanofi from Lab Bench to R&D Ops
- CSO **Laurence Hurley**, PhD – Decorated scientist and serial entrepreneur with four companies founded and two cancer drugs to the clinic
- VP **Vijay Gokhale**, PhD – Medicinal chemist who created the intellectual property for Reglagene and several spin outs from the University of Arizona
- VP **Teri Suzuki**, PhD – 25-year veteran with Sanofi and Icagen leading preclinical product development with two therapies reaching human clinical trial stage, led discovery of Reglagene's tubulin mechanism
- Ops Director **Michael Abrahamson**, PharmD – Pharmacist with successful startup experience (SinfoniaRx)

Top-Shelf Advisors with 33 INDs Between Them

- **David Bearss**, PhD – Serial entrepreneur (Montagen, Tolero, Halia Therapeutics) and drug developer with 17 INDs filed
- **Matthew Marx**, PhD – Medicinal chemistry leader (Pfizer, Takeda, Mirati) with 16 oncology INDs filed including breakthrough KRAS inhibitor Adugrasib

Non-Executive Directors with Diverse Biomedical Experiences and High Impact Results

- Chair **Lawrence Kinet**, MBA – Led billion businesses at Baxter Healthcare and Smiths Medical and IPO at Aksys
- Director **Sharon Ayd**, PhD, MBA – Regulatory leadership at Hospira, Apotex, and Advarra

Click here for CEO Richard Austin's 15-minute interview with Tech Nation's Dr. Moira Gunn