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## **Quadruga BioSciences Initiates Clinical Trial of Innovative, Targeted Treatment for Brain Cancers**

First-in-class dual function small molecule drug utilizes LAT1 amino acid transporter pathway to cross blood-brain barrier and deliver warhead directly into cancer cells, a potential breakthrough in brain cancer treatment

**LOS ALTOS, Calif., July 23, 2020 (Newswire.com)** - Quadruga BioSciences, a leader in the field of transporter technology for cancer therapeutics, today announced that the first patient has been dosed in a Phase 1 study of QBS10072S in patients with advanced malignancies. QBS10072S is a novel, first-in-class, bifunctional amino acid analogue that targets LAT1 (L-type amino acid transporter 1) expressing cancers for active transport into tumor cells to disrupt DNA replication. It is well recognized that LAT1 is highly expressed on many aggressive forms of cancer and has been shown to be an independent prognostic factor of poor patient outcome. QBS10072S is designed to be transported into high LAT1 expressing tumor cells and spare normal tissues, which typically do not express LAT1.

“Today’s announcement marks the initiation of the first-in-class LAT1 targeted cancer clinical program for the company,” said Gordon Ringold, Ph.D., chief executive officer of Quadruga BioSciences. “Initiation of this study is a major milestone for Quadruga and our partner, NBQ, a joint venture of Quadruga in China, that has partnered with us on the development of QBS10072S. We believe this program has the potential to significantly help patients with brain metastases and those with late stage astrocytoma, also known as glioblastoma multiforme (GBM).”

Preclinical studies have demonstrated that QBS10072S significantly suppresses tumor growth and improves survival in a triple negative breast cancer (TNBC) spontaneous brain metastasis model and in orthotopic GBM models. Additionally, whole body autoradiography studies with radiolabeled QBS10072S showed significant drug accumulation in the brain tumors of mice when the drug was administered intravenously.

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“One of the biggest hurdles to developing effective treatments for brain cancer is that most drugs cannot cross the blood-brain-barrier (BBB), and it is encouraging to see the preclinical data of QBS10072S was able to be transported across the BBB, accumulate preferentially in the brain tumor, resulting in reduced tumor growth and improved survival in animal models,” said Professor W. K. Alfred Yung, M.D., Professor of Neuro-Oncology at MD Anderson and executive committee member of the Moon Shots Program. “I look forward to the development of QBS10072S in patients with brain metastases and glioblastoma multiforme.”

“We are very pleased to be in partnership with Quadriga BioSciences to advance this novel and important treatment into clinical development for central nervous system (CNS) cancers, for which very limited treatment options are available for patients,” said Frank Yan, Ph.D., chief executive officer of NBQ and partner at 3E Bioventures Capital. “This research furthers the field of cancer metabolism and advances potential treatment options for patients whose cancers harbor genetic abnormalities.”

### **About the Study**

The Phase 1, multicenter, open-label, dose-escalation clinical trial is designed to assess the safety and tolerability of QBS10072S in patients with various metastatic malignancies. The primary objectives of the study are to determine the maximum tolerated dose, pharmacokinetics, and preliminary anti-tumor activity of QBS10072S. Disease-specific expansion cohorts with brain metastases and astrocytoma will be enrolled at the maximally tolerated or biologically relevant dose. Please refer to [www.clinialtrials.gov](http://www.clinialtrials.gov) for additional clinical trial details.

### **About Quadriga BioSciences**

Quadriga BioSciences is a privately held pharmaceutical company developing proprietary targeted cancer therapies. Our technology is based on the discovery that many aggressive forms cancer cells over-express certain unique amino acid transporters on their cell surfaces for the intake of nutrients to support rapid tumor growth and proliferation. Exploiting this biology, Quadriga is developing novel targeted molecules against cancer cells that over express these transporters. Our mission is to develop safer and more effective treatments for patients with cancer.

[www.quadrigabiosciences.com](http://www.quadrigabiosciences.com)

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## About NBQ

NBQ is an innovative, clinical stage biopharmaceutical company based in China, developing transformative first-in-class drugs to treat cancers with central nervous system (CNS) involvement and other tumors with high unmet medical need. NBQ develops clinical assets by targeting one unique member of the solute carrier (SLC) transporter superfamily, namely L-type amino acid transporter 1 (LAT1), which not only is significantly expressed on the blood-brain barrier (BBB) but also broadly overexpressed in cancer patients especially with brain metastases (BM) and glioblastoma multiforme (GBM). Our mission is to discover and bring preclinical stage assets to clinical development and translate basic science into medicine for patients with cancer in China and around the world.

## About primary brain cancer and GBM

Globally, an estimated 405,000 patients are diagnosed with, and over 247,000 patients die from primary brain cancer (cancer originating from the brain or the central nervous system) each year. China and the US are the two countries with the highest number of new diagnoses of primary brain cancer. Glioblastoma multiforme (GBM) is the most common and most aggressive form of primary malignant tumor of the central nervous system (47.7%). Current treatments for patients with newly diagnosed GBM include surgery followed by radiation and chemotherapy. The last medication that extends survival of patients with GBM was approved by U.S. Food and Drug Administration in 2005. The five-year survival rate of patients with GBM is less than five percent.

## About brain metastases (BM)

Brain metastases (BM) are cancer growths that spread to the brain from a cancer in another part of the body. They are the most commonly diagnosed CNS cancer and often associated with significant morbidity and mortality. These types of brain tumors are estimated to occur 10 times more frequently than primary brain cancer. Tumors of the lung, breast, and melanoma are the leading causes of metastases to the brain. While estimates vary substantially across different primary tumor types (10% of renal cell carcinoma to 68% of melanoma), brain metastases account for approximately 10% of all cancers diagnosed in the U.S.

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