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NBQ moves ahead with transformative treatment for brain cancers

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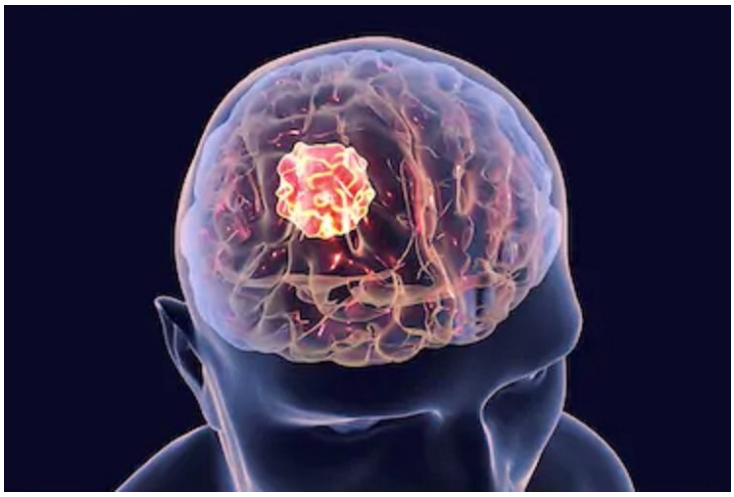
First-in-class dual function small molecule drug utilities LAT1 amino acid transporter pathway to cross the blood-brain barrier and deliver warhead directly into cancer cells



A Chinese clinical-stage biopharmaceutical company, N.B. Quadriga (NBQ), developing transformative medicines for brain cancers, recently announced that the first patient has been dosed in a Phase 1 study of NBQ72S, also known as QBS10072S, in patients with advanced malignancies.

NBQ72S is a novel, first-in-class, bifunctional small molecule that targets human LAT1 (L-type amino acid transporter 1), a member of the solute carrier (SLC) superfamily of transporters, which is highly expressed on the blood-brain barrier (BBB) and in many aggressive forms of cancers, such as glioblastoma multiforme (GBM), breast cancer, lung cancer, and melanoma.

Not only this, NBQ72S is designed to exploit LAT1 for efficient, active transport across the BBB into the brain and specifically targets and enters high LAT1 expressing tumor cells, but not normal tissues which typically do not express LAT1. Inside the cancer cells, NBQ72S exerts its cell-killing activity by disrupting DNA replication of those rapidly dividing cells leading to cell death.