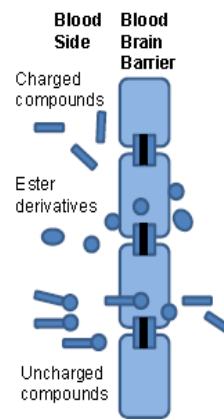


NOVEL APPROACH TO DELIVER DRUG CROSSING BLOOD BRAIN BARRIER INTO THE BRAIN

TECHNOLOGY OVERVIEW

The technology is a novel approach to deliver drugs and other therapeutic agents into the brain. Previous techniques faced extremely limited success, as they were unable to pass through the blood-brain barrier (BBB), which is a tight seal of cells that line the blood vessels in the brain and prevents the entry of most drug molecules from the circulatory system into the brain. The technology conjugates chemical agents/drugs with ester derivatives, by which acquire lipid solubility and can freely pass through the BBB. Once they reach the extracellular space of the brain, the ester conjugations are removed by nonspecific esterases, resulting in the original chemical agents/drugs. The adjoining diagram shows how the ester derivatives are able to cross the BBB which blocks other charged compounds and splits the uncharged species making them unstable. This innovative approach may open up new avenues for the treatment of other neurological disorders that are currently treated with limited choice of drugs because of the impermeability of the BBB.



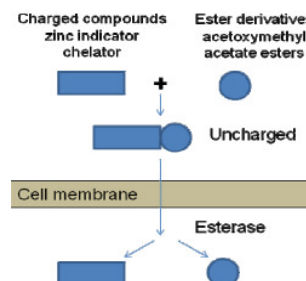
POTENTIAL FIELDS OF USE

The technology can have a significant contribution in the areas of neurological/brain disorders, such as traumatic brain injury (TBI), brain ischemia/stroke, epilepsy, brain tumors, and etc. The overall market of neurological agents has enormous potential and is expected to grow to \$12.8 billion by 2012. Neurological biomarkers will have a significant share in this market.

BENEFIT ANALYSIS

The technology overcomes limitations faced by previous diagnostic processes:

- Facilitate the delivery of chemical agents/drugs cross BBB into the brain.
- Facilitate the treatment of neurological disorders that are currently treated with limited choice of drugs because of the impermeability of the BBB.
- The treatment using the new approach is more selective and less neurological toxic (side effects).
- Cost effective since more targeted drugs can be applied with new technology.



STAGE OF DEVELOPMENT

The drug is currently undergoing several clinical studies. It was administered to rats that were suffering from varying conditions of TBI. The injured areas of their brains were distinct when their brains were evaluated using a fluorescent microscope. The technology requires further testing to verify its effectiveness in the treatment of humans.

FUTURE DEVELOPMENT

Future attempts will be focused in testing more ester conjugated compounds to open the avenues for treating other neurological disorders.

LICENSING OPPORTUNITIES

A patent for the technology is pending. Licensing opportunities are available.

For more information contact:

Ohio University
Technology Transfer Office
340 West State Street, Unit 11, Athens, OH 45701
T: 740.593.0462, F: 740.593.0186
tto@ohio.edu



OHIO
UNIVERSITY