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Researchers at SCTIMST develop a nanocluster for brain imaging

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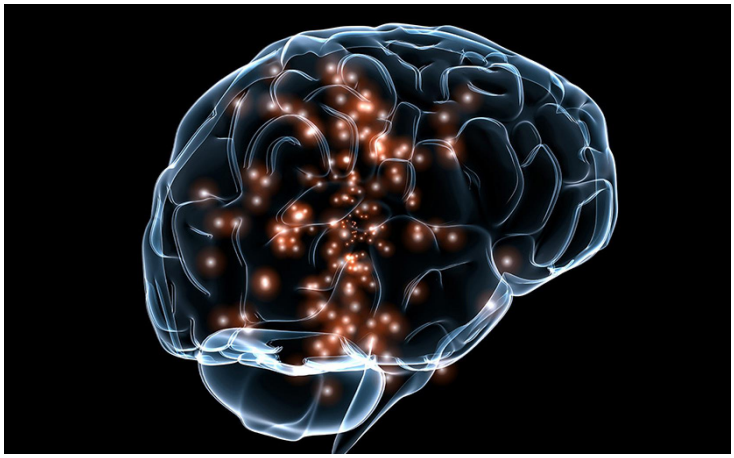

A team of researchers at Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Thiruvanathapuram, have developed a gold nanocluster that is able to cross the blood–brain barrier.

The fluorescent gold nanocluster of size 1.7 nanometre can be used both as a carrier of drugs to the brain and for imaging the brain for tumours and other disorders.

To enable the nanocluster to cross the barrier, the researchers coated the gold nanoparticles with glutathione that facilitates the uptake of amino acids into the brain.

For drug delivery studies, a model drug pilocarpine (a seizure-inducing agent) added to the nanoparticle was injected into the mice. The animals showed the preliminary neurological symptoms, but never had seizures, indicating that the gold nanoclusters released the drug slowly.

The researchers claim that the new nanocluster can be used for the early stage diagnosis and treatment of neurological diseases when the barrier is not disrupted or loosened.

More studies are required before going for human clinical trials since the blood–brain barrier varies from species to species.