

## Curing brain cancer by stem cells technology

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Stem Cells are found in all multicellular organisms. They are characterized by the ability to renew themselves through mitotic cell division. The two broad types of mammalian stem cells are *embryonic stem cells* that are isolated from the inner *cell mass of blastocysts* and *adult stem cells* that are found in adult tissues. Stem cells can be effective to cure the treatment for glioma most aggressive form of primary brain tumor in human. Glioma cells often spread deep into healthy brain tissue making their surgical removal difficult. Often pockets of tumor cells break off from the main tumor and migrate deep into non tumorous areas of the brain. Therefore even if the original tumor is completely removed or

destroyed the risk of recurrence is high as cells in these distant "*Satellites*" multiply and eventually reform a new brain tumor. Due to these characteristics, treating brain cancer has been extremely difficult. Scientists show that neural stem cells when injected into brain tumors can follow tumor cells as they migrate away from the main tumor mass. The interleukin 12 producing neural stem cells were then injected into brain tumors in mice and could kill tumor cells that had spread deep inside. The stem cells therapy is estimated to be ready to test on human in 18 months and showing good results in laboratory test.