

2010 Research Grants

Cincinnati Children's Hospital - Rachid Drissi, PhD

Telomerase: A Therapeutic Target in Pediatric Brain Tumors

The outcome for children with many brain tumors remains poor. Current standard therapy for children with high-grade glioma that includes radiotherapy has devastating side effects on the child's life. The long-term goal of this pilot study is to improve the efficacy of radiation while minimizing its side effects. This project is design is to use radiation concurrently with a compound that sensitizes cancer cells to radiation therapy. This combination therapy is expected to be more effective at lower radiation doses and therefore will minimize the side effects.

**Children's Memorial Hospital Chicago, IL --- Jason Fangusaro, MD AND
MD Anderson Cancer Center - Vidya Gopalakrishman, PhD**

RE1 Silencing Transcription (REST) Factor as a Prognostic Factor and Therapeutic Target for Medulloblastoma

Currently, the prognosis for Medulloblastoma in children is based on non-specific factors like age of the child and spread of the tumor. This study aims to find out if RE1 Silencing Transcription Factor (REST) could be used as a prognostic factor. REST helps block the generation of neurons from stem cells until the appropriate time in the cell life and recently been found in human Medulloblastoma samples. This study will examine the relationship between REST and Medulloblastoma and will look for opportunities to target REST expression.

Nationwide Children's Hospital Christopher Pierson, MD, PhD

Id Proteins in Medulloblastoma

Medulloblastoma is the most common malignant childhood brain tumor. Id proteins are abundant in many types of cancers but minimal or absent in normal cells. These proteins are important in cell proliferation, survival and invasion of malignant cells and are therefore an appealing anti-tumor target. This project looks to evaluate the role of Id proteins in Medulloblastoma and the feasibility of targeting them as a new treatment approach.

Children's Hospital of Philadelphia Angela Sievert, MD, MPH

Targeting Activating BRAF Mutations in Pediatric Brain Tumors

Gliomas are the most common type of brain tumor in children and the long term prognosis can be favorable if the tumor can be completely removed. Treatment options are limited for the many children with unresectable or recurrent tumors. If effective, targeted therapies could be directed against specific biochemical or cellular abnormalities

of these tumors. Mutant BRAF activation is a hallmark of pediatric gliomas and therefore a possible target. This study aims to test a panel of BRAF inhibitors in cell lines and mouse models to identify which are most promising therapies for pediatric gliomas.