

CHOP Research Institute Summer Scholars Program



Yael P. Mosse, M.D.

Oncology

Translational Research: Research focused on bringing concepts in laboratory research directly into medical practice (may or may not involve human subjects)

Neuroblastoma

In our lab, we have made great strides in our knowledge of the hereditary predisposition and progression of neuroblastoma. We discovered the gene mutations that are the primary cause of the inherited version of neuroblastoma (missense mutations in the Anaplastic Lymphoma Kinase oncogene) and that also play a significant role in high-risk forms of the more common, non-inherited form of the disease. These findings are helping us translate our knowledge from the lab to new and one-day curative ideas for patients.

- **Potential summer research project:**
 - (1) Identification of genetic mutations in families with neuroblastoma who do not have germline mutations in ALK; (2) Screening of next-generation small molecules against ALK in human neuroblastoma-derived models; (3) Identification of novel strategies to effectively inhibit ALK in neuroblastoma; and (4) Development of anti-ALK antibodies directed at the extra-cellular domain of ALK.
- **Students will learn the following techniques:**
 - (1) Manipulating human cancer-derived cells; (2) Treatment of cell lines with pharmacologic inhibitors to determine potential relevance in the clinic; and (3) Western blotting to probe for expression of relevant proteins.

Please click [here](#) to read more about Dr. Mosse