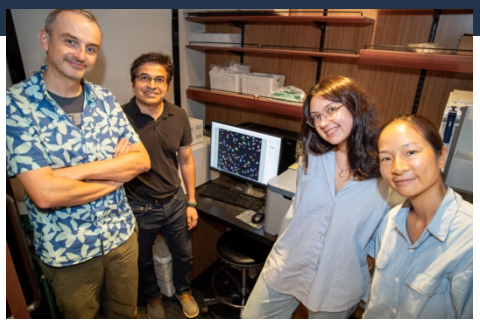
Seed Phase



Development of peptide inhibitors to target neuroblastoma

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What is the problem?

Neuroblastoma is the most common extracranial solid tumor in childhood cancer. Approximately 50% of newly identified neuroblastoma cases are classified as high-risk disease. Despite advances in therapeutic treatment, high-risk neuroblastoma is often fatal. Current treatment relies on high-dose chemotherapy with severe side effects that require subsequent stem cell transplantation and costly follow-up treatments. Thus, new therapeutic approaches are required to reduce severe side effects and increase the survival rate of patients.

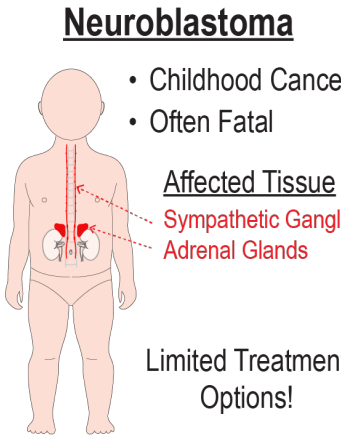

Figure 1 Limited treatment options for neuroblastoma requires the development of new strategies.

What is your solution?

We propose to develop a specific peptide inhibitor to target high-risk neuroblastoma. Peptide inhibitors combine several advantages such as high specificity, good efficacy, and low immunogenicity. We have identified a subset of genes as potential targets for the development of peptide inhibitors. The identified genes are specifically required for cell proliferation in normal and high-risk neuroblastoma, but not, or to a significantly lesser extent, in other cell types tested. We will employ a peptide-tiling screen on the selected genes to identify inhibitory peptides with high efficacy and specificity in ceasing neuroblastoma proliferation. We anticipate that the proposed peptide inhibitors will have minimal side effects due to the cell type-specific vulnerability and be suitable for the treatment of high-risk neuroblastoma.

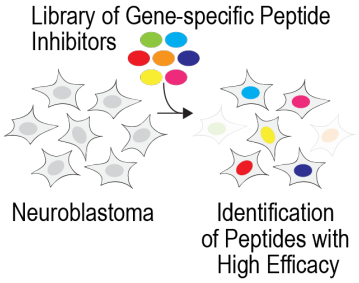

Figure 2 Employing Peptide-tiling Screens to identify novel inhibitors with high efficacy.

Other resources

- Unit website

Contribution to SDGs

Keywords: Neuroblastoma, Peptide Inhibitor, Cancer-specific treatment

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