

Washington University in St. Louis

Washington University Open Scholarship

Volume 13

Washington University
Undergraduate Research Digest

Spring 2018

Identifying Protein that Associate with AdamTS-A in the Central Nervous System

Prajwal Keranahalli

Washington University in St. Louis

Follow this and additional works at: https://openscholarship.wustl.edu/wuurd_vol13

Recommended Citation

Keranahalli, Prajwal, "Identifying Protein that Associate with AdamTS-A in the Central Nervous System" (2018). *Volume 13*. 100.

https://openscholarship.wustl.edu/wuurd_vol13/100

This Abstracts J-R is brought to you for free and open access by the Washington University Undergraduate Research Digest at Washington University Open Scholarship. It has been accepted for inclusion in Volume 13 by an authorized administrator of Washington University Open Scholarship. For more information, please contact digital@wumail.wustl.edu.

IDENTIFYING PROTEIN THAT ASSOCIATE WITH ADAMTS-A IN THE CENTRAL NERVOUS SYSTEM

Prajwal Keranahalli

Mentor: James B. Skeath

AdamTS-A is an extracellular metalloprotease that cleaves proteins in the extracellular matrix to anchor cells in place and control tissue structure in the *Drosophila* nervous system. Past research in our lab showed that AdamTS-A inhibits collagen IV accumulation in the ECM, but the molecular interactions between these proteins are not well defined. My research focuses on identifying proteins that associate and interact with AdamTS-A. To do this, I am using the yeast two-hybrid system to identify proteins that interact with different regions of AdamTS-A. Identifying proteins that interact with AdamTS-A will help us clarify the exact mechanism through which AdamTS-A preserves nerve cord structure. In addition, through genetic studies our lab found that Papillin (Ppn), another ECM protein, acts opposite to AdamTS-A to regulate tissue structure. By designing antibodies to track the protein distribution and localization of Ppn we can learn if Ppn colocalizes with other key ECM proteins. The antibodies will also help us understand how AdamTS-A processes and inhibits Ppn accumulation in the CNS ECM. Cellular migration plays a major role in head and neck cancer metastasis therefore elucidating the mechanisms that allow cells to spread great distances is an important step in developing treatments. There are several mammalian AdamTS genes that may play a role in maintaining CNS structure just like AdamTS-A in *Drosophila*.