

Washington University in St. Louis

## Washington University Open Scholarship

---

Volume 13

Washington University  
Undergraduate Research Digest

---

Spring 2018

### PexRAP-Med19 Interactions

Nitya Janardhan

*Washington University in St. Louis*

Follow this and additional works at: [https://openscholarship.wustl.edu/wuurd\\_vol13](https://openscholarship.wustl.edu/wuurd_vol13)

---

#### Recommended Citation

Janardhan, Nitya, "PexRAP-Med19 Interactions" (2018). *Volume 13*. 90.  
[https://openscholarship.wustl.edu/wuurd\\_vol13/90](https://openscholarship.wustl.edu/wuurd_vol13/90)

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](mailto:digital@wumail.wustl.edu).

## PEXRAP-MED19 INTERACTIONS

*Nitya Janardhan*

*Mentor: Irfan Lodhi*

PexRAP (peroxisomal reductase activating PPAR $\gamma$ ) is a peroxisomal protein involved in lipid synthesis, and improved glucose metabolism. Recently, research conducted at the Lodhi Lab has discovered that PexRAP has concurrent transcriptional regulation roles as well—suggesting that it may affect metabolism by regulating adipose tissue development at the transcriptional level. Previous experiments have demonstrated that an interaction exists between PexRAP and Med19, a mediator complex subunit. This project investigated the interactions that occur between Med19 and PexRAP in order to better understand their role in adipogenesis and transcription regulation throughout the body, and the overall metabolic pathways in which this interaction could occur. Bioinformatics analysis revealed that this interaction likely occurs within the N-terminus of the PexRAP protein. The focus of this project was to first optimize a mammalian 2-hybrid assay in order to confirm the previously determined interaction. This project resulted in the development of a robust protocol to determine protein-protein interactions within mammalian cells, which was then used to test the interactions between PexRAP and Med 19 *in vivo*. In addition, a secondary project was also completed, through which purified PexRAP antibody was extracted and tested from rabbit serum, for use in further experiments.