Investigating the role of peroxisomes in Parkinson's disease - DBT

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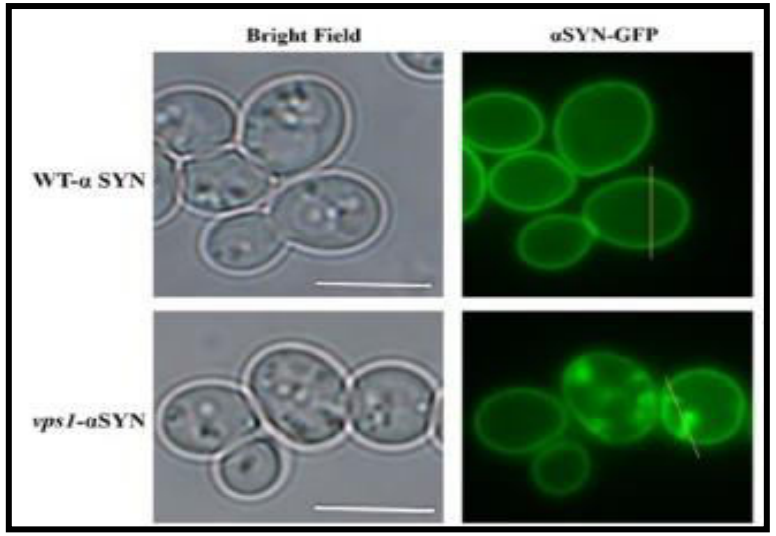
Objectives:

1. Investigating peroxisome functions in yeast models of Parkinson's disease (PD)
2. Effect of altered peroxisome proliferation in yeast models of PD
3. Effect of altered peroxisomal catalase expression on protein aggregation in yeast models of PD
4. Relationship between mitochondria and peroxisomes in PD
5. Investigating pexophagy in yeast models of PD
6. Mechanistic studies on pexophagy using small molecule modulators of pexophagy



Deliverables: High quality research publications

❖ **Outcome through Project:**
- The outcome from this project will help us identify the role of peroxisomes in PD and understand the mechanism of pathogenesis of this disease.

❖ **Societal Impact:**
- Parkinson's disease (PD) is the second most common neurodegenerative disorder affecting ageing individuals.
- Number of people diagnosed with PD is increasing in India and a need for understanding the molecular mechanisms behind this is of utmost importance.

❖ **Current Status:**
- Our initial data is suggesting an interesting regulation of peroxisome number in conditions of α-synuclein expression. Also, detailed analysis of a link between the division machinery and cellular toxicity caused due to α-synuclein expression is underway. Mechanistic studies related to pexophagy are ongoing.