NANYANG TECHNOLOGICAL UNIVERSITY

School of Biological Sciences

Reg. No. 200604393R

Research Theme: Cell Biology

Research Project Title: **The effect of nutrient on the membrane trafficking**

Principal Investigator/Supervisor: **Asst. Prof. Lei Lu**

Co-supervisor/ Collaborator(s) (if any):

Project Description

a) Background:

Nutrient, including amino acids, glucose, and other carbon sources, is the most fundamental resource for the growth and proliferation of cells. Nutrient not only provides building materials for biosynthesis but also initiates multiple signaling pathways such as the mTOR pathway to regulate metabolic activities of cells. We recently discovered that amino acids could regulate the endocytic Golgi membrane trafficking via a signaling pathway (Shi et al., 2018). Now the question is that if amino acids can affect endosomal membrane trafficking. Endosomal membrane trafficking plays important roles in the cell surface presentation of receptors, which are highly relevant to signal transduction and human diseases such as cancer. Our work, therefore, can potentially link nutrients to signaling and diseases via membrane trafficking.

b) Proposed work:

There are two aims for this project.

1) We will test if nutrient affects various endosomal trafficking pathways by using cell-based assays.
2) Once the effect is confirmed, we will elucidate the signaling pathway behind it.

Supervisor contact:

If you have questions regarding this project, please email the Principal Investigator:

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SBS contact and how to apply:

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Please apply at the following:

http://admissions.ntu.edu.sg/graduate/R-Programs/R-WhenYouApply/Pages/R-ApplyOnline.aspx