

Summer Research Program 2025 – Projects

Project #8

Title: Investigation of the role of long-non-coding RNAs in the protective effect of GLP1 receptor agonists on hepatic steatosis in vitro

Description: Non-alcoholic fatty liver disease (NAFLD) is the most common chronic liver disease worldwide in part due to the obesity epidemic and insulin resistance. NAFLD investigations are incredibly important because their diagnosis requires the conduction of a biopsy. More recently biomarkers such as LncRNAs have been investigated for their involvement in NAFLD. LncRNAs represent a diverse class of transcribed RNA molecules that have a length of more than 200 nucleotides but do not encode proteins, which are involved in various biological processes such as cell proliferation, apoptosis, and differentiation. Metastasis associated with lung adenocarcinoma transcript 1 (MALAT1) is a well-conserved lncRNA implicated in several diseases, including cancer.

The purpose of this study was to investigate MALAT1's effects on hepatic lipid accumulation and potential targets in the presence of the GLP-1R agonist Exendin-4 (Ex-4), which has the potential to improve steatosis.

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