DIVISION OF PHARMACEUTICAL SCIENCES
COLLEGE OF PHARMACY

SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE students

FOR APPLICATION YEAR: 2026

PROJECT TITLE: Molecular and cellular mechanisms of antipsychotic resistance in a rodent model

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Project Description

Antipsychotics are used to treat various psychiatric symptoms, including psychosis, yet symptoms persist in one-third of patients with first-episode psychosis due to antipsychotic resistance (AR). These patients require second-line agents like clozapine, which may cause serious side effects. The molecular basis of AR remains unknown, limiting development of safer alternatives. Use of addictive drugs, including psychostimulants, is a known risk factor for AR. We propose that reduced expression of protein regulating dopamine and glutamate striatal neurotransmission, may predispose individuals to AR (Amato et al., 2019, 2020)

The student would assist with behavioral testing, tissue processing, and data entry for animals undergoing antipsychotic efficacy assays. They may also help quantify protein expression (e.g., DAT, GLT-1) via immunohistochemistry or Western blot under supervision.