VISAYAS STATE UNIVERSITY
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ADVANCED RESEARCH AND INNOVATION CENTER
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QUARTERLY RESEARCH PROGRESS REPORT
2nd Quarter

Research Title: Bioactivity and molecular characterization of lead compounds from candidate antidiabetic indigenous plants

I. Program/Project/Study Objectives

1. To characterize and elucidate the structure of compounds from selected plant extracts with known antidiabetic properties,
2. To determine the effect and mechanism of action of plant extracts on the differentiation of adipocyte cells,
3. To determine the intermolecular interaction of the selected plant extracts to that of the alpha-glucosidase enzyme, receptor proteins, and ligands

II. Relevance to VSU & College's Thrust and Priorities:

The approved research will strengthen the research capacity of the Visayas State University in the field of Health Research in addressing the rapidly evolving state of both communicable and non-communicable diseases.

The international collaboration will also give opportunities to researchers to gain knowledge in the field of Computational Biology and Bioinformatics, which is also a part of the RDEI Priorities and Agenda of the Advanced Research and Innovation Center.

III. Highlights of accomplishments within the quarter

A. Targets for the quarter

- ✓ Phytochemical Analysis of plant samples
- ✓ Alpha-glucosidase inhibition assay, i.e., IC50 and enzyme kinetics
- ✓ 3T3-L1 pre-adipocytes expansion
- ✓ Cytotoxicity assay using 3T3-L1 cells
- ✓ Morphological effect of plant extracts on lipid formation in differentiated 3T3-L1 adipose cells
- ✓ Glucose uptake assay