



Harmony of Life
Integrated Physiology for One Health



PROGRAMME BOOK
THE 17th NATIONAL CONGRESS
OF THE INDONESIAN PHYSIOLOGY
SOCIETY AND 27th INTERNATIONAL
PHYSIOLOGY SEMINAR 2018
Integrated Physiology for One Health

 **ELO KARSA UTAMA**
SERVING YOU BETTER



nutriLab pratiama

TABLE OF CONTENTS

1. PREFACE.....	1
2. RUNDOWN.....	2
3. ORGANIZING COMMITTEE.....	6
4. MAP OF PLACE.....	8
5. EVENT DESCRIPTION.....	9
6. SPEAKERS ABSTRACT.....	12
7. PRESENTATION ABSTRACT.....	19

The Role of Resistant Starch Type 3 Modified Cassava Flour (MOCAF) as an Alternative Prebiotic in Diabetes Mellitus Rats Model

Jauhar Firdaus¹, Elly Nurus Sakinah²

1. Departemen of Physiology, Faculty of Medicine, University of Jember
2. Departemen of Pharmacology, Faculty of Medicine, University of Jember

Prebiotics has widely known to have benefit in human health. As an alternative prebiotics Resistant Starch type 3 (RS3) has several advantages which are do not cause constipation nor diarrhea, RS3 also decrease blood glucose and increase the level of Glucagon Like Peptide-1 (GLP-1) which has a major role in the mechanism of blood glucose control in patients with diabetes mellitus (DM). One that can be used as a source of RS3 is Modified Cassava Flour (MOCAF). **Objective:** The goal of this study is to analyze the role of RS3 MOCAF as an alternative probiotic in diabetes mellitus rats model. This study used twenty four rats randomly selected and grouped into 4 group (normal, MOCAF, RS3 MOCAF and Diabetes) given different food (standard, MOCAF and RS3 MOCAF) as much as 20 gram each day for 4 weeks. In the end of study blood taken to measure post prandial blood glucose and fasting blood glucose. Stool sample were taken from large intestine for Short Chain Fatty Acid (SCFA) and microbiological analysis. Dietary RS3 MOCAF decrease post-prandial blood glucose from 526 mg/dL to 96 mg/dL and fasting blood glucose from 494 mg/dL to 107 mg/dL. SCFA analysis showed that fermentation of RS3 MOCAF produces acetic acid (16.18 mmol), propionic acid (5.51 mmol) valeric acid (2.52 mmol) and butyric acid (0.57 mmol). Microbiological analysis showed that RS3 MOCAF plays role as prebiotics in the large intestine after dietary RS3 mocaf is *Lactobacillus Sp.* rats model.

Keyword: Prebiotics , Resistant starch type 3, MOCAF, Blood glucose, SCFA, Diabetes mellitus