

MEMORANDUM OF UNDERSTANDING

on

Research Activities Related to Cholesterol

BETWEEN

The Faculty of Medicine of Universitas Kristen Indonesia in Jakarta, Indonesia

AND

Institute for Clinical Chemistry and Clinical Pharmacology
of the University of Bonn, Bonn, Germany

I. Purpose

The purpose of this MOU is to establish a framework for research collaboration activities between Department of Pharmacology and Therapy of the Faculty of Medicine of Universitas Kristen Indonesia and Institute for Clinical Chemistry & Clinical Pharmacology of the University of Bonn, Germany

In general, the two parties intend to focus on Determining of Cholesterol, Oxysterols and Plant sterols in patients with hypercholesterolemia and healthy subjects.

1. Background

In pursuant of international research collaboration between institutions that implies on the development of health and medical science especially in cholesterol metabolism, the Department of Pharmacology and Therapy of the Faculty of Medicine - Universitas Kristen Indonesia, Jakarta and Institute for Clinical Chemistry & Clinical Pharmacology of the University of Bonn, Germany are willing to conduct research with afore mentioned topic.

Cholesterol is one of the biochemical substances needed for human being in most of the biological processes for example as backbone of cell structure, production of hormones, and production of bile salts. Elimination of cholesterol from the human body occurs via oxidation processes and oxysterols are the main precursors of bile acids. Oxysterols have been studied and found as one of the important factors in propagating the cascade of plaque building in arteries the hallmark of atherosclerosis. Cholesterol level in the blood is determined by genetic and environment pictures of particular population such as diet, which might also varies in contents of the diets. Plant sterols in the human circulation origin exclusively from the diet and their serum or plasma concentrations reflect cholesterol absorption rates.

Therefore it is interesting to find out and compare the cholesterol, oxysterols and plant sterols serum or plasma levels between Indonesian and German populations indicating differences in cholesterol metabolism.

II. Scope of Collaboration

The general purpose of this MOU is to facilitate research cooperation between the parties hereunder based upon the principles of mutual benefit and may include the following general cooperation areas:

1. Exchange of visiting experts for the purpose of conducting research.

2. Discussion for the exchange of facilities and equipment for collaborative or independent research based on the policies of both entities.

III. Roles and Responsibilities

Each party intends to implement the following provisions of this MOU, under the responsibility of the Head of the Department of Pharmacology and Therapy of UKI and the Director of the Institute for Clinical Chemistry and Clinical Pharmacology, University of Bonn, Germany.

Each party shall agree on the following separate responsibilities as follows:

The Dept. of Pharmacology and Therapy of UKI shall agree on the following:

1. Recruiting patients and subjects for the purpose of the research
2. Collecting samples from the subjects which will be partly assayed in the Institute for Clinical Chemistry and Clinical Pharmacology – University of Bonn for solely of the purpose of the research
3. All cost produce in research activities in Indonesia

The Institute for Clinical Chemistry and Clinical Pharmacology - University of Bonn will have the following responsibilities:

1. Provide laboratory facilities for the analysis of Cholesterol, Oxysterols and Non-cholesterol sterols (cholesterol precursors and plant sterols) using gas chromatography-mass spectrometry
2. Discussion of the results and preparation of a manuscript for publication.

The two parties may together or individually seek a third party sponsors or funding organizations regarding the conduction and continuation of the research.

IV. Points of Contacts

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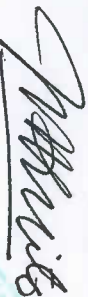
Email: dieter.luetjohann@ukb.uni-bonn.de

V. MODIFICATION/DURATION/TERMINATION

The parties agreed to collaborate for 12 months. This MOU will be effective when signed by all parties. This MOU may be amended at any time by the mutual written consent of the parties. This MOU may be terminated by either party at anytime by one party notifying the other party in writing 90 days in advance of the termination date.

Signed on 7th April 2014

Dean of the Faculty of Medicine
Universitas Kristen Indonesia,
Jakarta University of Bonn,



dr. Marwito Wiyanto, MBIomed, AIFM

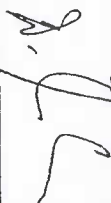


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