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EDHYANA



# Proceeding

47<sup>th</sup> Anniversary of Universitas Yarsi

## INTERNATIONAL SEMINAR AND WORKSHOP ON MOLECULAR MEDICINE: FROM BASIC SCIENCE TO CLINICAL CARE

2014



HPEQ Project



# INTERNATIONAL SEMINAR AND WORKSHOP ON MOLECULAR MEDICINE: FROM BASIC SCIENCE TO CLINICAL CARE

April 15th - 16th, 2014

Ar-Rahman Auditorium, Universitas Yarsi, Jl. Letjen Suprapto, Cempaka Putih, Jakarta, Indonesia, 10510

47<sup>th</sup> Anniversary of Universitas Yarsi

# Certificate



Awarded To

**Edhyana K. Sahiratmadja, dr. PhD**

As Participant / Committee / Moderator / Oral Presenter

Total 40 SKP IDI for Participant & Speaker



Rika Yuliwulandari, MD, PhD  
Chairman of the Organizing Committee

Susi Endrini, PhD

Rektor Universitas Yarsi

**INTERNATIONAL SEMINAR AND WORKSHOP  
ON MOLECULAR MEDICINE  
FROM BASIC SCIENCE TO CLINICAL CARE**

**ABSTRACT ACCEPTANCE LETTER**

Jakarta, 4 April 2014

Dear Dr. Edhyana Sahiratmadja  
Dept. of Biochemistry, Faculty of Medicine  
Universitas Padjadjaran Bandung Indonesia

The Scientific Committee of the seminar is very pleased to inform you that your abstract entitled "**Exploring N-Acetyltransferase 2 (NAT2) gene polymorphisms among population in Kupang using the GoldenGate Genotyping Assay**" has been accepted for an oral presentation at the International Seminar and Workshop on Molecular Medicine from Basic Science to Clinical Care, which will be held from 15-16 April 2014 in Jakarta, Indonesia.

Thank you for your submission and we are looking forward to seeing you in Jakarta.

Sincerely yours,

 **UNIVERSITAS  
YARSI**

Rika Yuliwulandari, MD, PhD  
Chairman of the Organizing Committee  
Universitas YARSI



KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN  
UNIVERSITAS PADJADJARAN  
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**SURAT IJIN**

Nomor : 2054/UN6.C.C2/KP/2014

Dekan Fakultas Kedokteran Universitas Padjadjaran memberikan ijin kepada :

Nama : Edhyana K. Sahiratmadja, dr., Ph.D.  
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Unit Kerja : Departemen Biokimia FK Unpad

sebagai Peserta acara "The International Seminar and Workshop on Molecular Medicine Universitas YARSI" di Jakarta pada tanggal 15 – 16 April 2014, dengan ketentuan setelah selesai wajib melaporkan diri kepada atasan langsungnya dan bekerja kembali sebagaimana biasa.

Demikian surat ijin ini dibuat untuk dapat digunakan sebagaimana mestinya.

Bandung, 14 April 2014

a.n. Dekan

Wakil Dekan II,

Arief Sjamsulaksan Kartasasmita, dr., Sp.M., M.Kes., Ph.D.  
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Tembusan :

1. Dekan FK Unpad (sebagai laporan)
2. Kepala Departemen Biokimia FK Unpad
3. Yang bersangkutan

# **FULL PAPER**

***47<sup>th</sup> Anniversary of Universitas YARSI***

**International Seminar and  
Workshop on Molecular Medicine  
Form Basic Science to Clinical Care**

**15-16 April, 2014**

**Universitas YARSI, Jakarta**

**INDONESIA**

# **Exploring N-Acetyltransferase 2 (*NAT2*) gene polymorphisms among population in Kupang using the GoldenGate Genotyping Assay**

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**Introduction.** N-acetyltransferase 2 enzyme, encoded by *NAT2* gene, plays a significant role in the metabolism of anti-tuberculosis drugs isoniazid (INH). Polymorphisms in *NAT2* gene can determine the acetylator status of individual and this status can be classified into rapid, intermediate, or slow acetylator.

**Objective.** To determine variations in the *NAT2* gene using the GoldenGate Genotyping Assay for VeraCode/BeadXpress among population in Kupang, a region in the Eastern part of Indonesia with high prevalence of tuberculosis.

**Material and Methods.** The GoldenGate Genotyping Assay for VeraCode/BeadXpress is a genotyper machine that can detect 48 to 384 single nucleotide polymorphisms. Here we used a panel of 48 SNP and 7 rs of the most important *NAT2* SNP were proposed. Genomic DNA of 234 participants were recruited. This study was part of a study to identify genes related to susceptibility to tuberculosis in Kupang, Timor.

**Results.** Of 234 DNA, 169 met the required concentration for the machine, however, only two of 7 SNP proposed could be detected using this method; i.e. rs1801279 and rs1799930, with the distribution as followed: no variation in rs1801279 while in rs1799930 showed GG, GA and AA were 57%, 35,1% ,7.9%, respectively.

**Discussion.** *NAT2* gene screening cannot be optimally determined using GoldenGate Genotyping Assay yet, since the polymorphisms in *NAT2* gene are too close to each other and the work is costly. It is worthy noted that in the area with limited resources, cheaper determination of acetylator status is needed since this status is clinically relevant prior to INH therapy to adjust the dose of treatment. We suggest that other methods i.e. sequencing might be more suitable or otherwise cheaper in determining the *NAT2* gene polymorphisms.

**Keywords:** Acetylator, Kupang, *NAT2* gene, Tuberculosis

## **Acknowledgement:**

Grant Competitive University Year 2012