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ABSTRACT BOOK

**5th International Conference on Advanced Molecular
Bioscience and Biomedical Engineering 2018
(ICAMBBE 2018)**



**Swiss Belinn Hotel
Malang - Indonesia**

September 3 - 4th 2018



**BIOSAINS INSTITUTE
BRAWIJAYA UNIVERSITY**

**5th International Conference on Advanced
Molecular Bioscience and Biomedical
Engineering (ICAMBBE) 2018**



Swiss Belinn Hotel, Malang, East Java, Indonesia

September, 3rd – 4th 2018



Table of Content

Welcome Speech from Rector of Universitas Brawijaya	i
Welcome Speech Head of 5th International Conference on Advance Molecular Bioscience and Biomedical Engineering (ICAMBBE) 2018	iii
Table of Content.....	v

Scientific Program

5th International Conference on Advance Molecular Bioscience and Biomedical Engineering (ICAMBBE) Institut Biosains, Universitas Brawijaya	01
Schedule of Parallel Seminar	03

Keynote Speaker

Development of Health and Pharmaceutical Research Competitiveness toward SDGs.13	
The role of Ministry of Research, Technology, and Higher Education (RISTEKDIKTI) in Coordinating and Directing the R & D on Health Products and Drugs for Utilization..15	

Plenary Lecture

PL-1 Recombinant Protein Production for Stem Cell Uses	16
PL-2 Orchestration of Housekeeping and Cell-Specific Metabolisms in Steroidogenic Cells by a Transcription Factor, Ad4BP/SF-1	17
PL-3 Effect of Radiation Exposure on Reproductive Function of Domestic and Wild Animals after the Fukushima Nuclear Power Plant Accident	18
PL-4 Pathophysiological Analysis of Diabetic Peripheral Neuropathy in SDT Fatty Rat, a New Animal Model of Obese Type 2 Diabetes.....	19
PL-5 Pharmacological Responses to Anti-Diabetic Drugs in Female SDT Fatty Rats, A New Obese Type 2 Diabetic Rat	20
PL-06 Development of Recombinant Protein Based Biomarker for Autoimmune Diseases	21

Oral Presentation

MS - 01 Isolation, Characterization Cancer Cells from Breast Cancer Patients	22
MS - 02 Effectivity Of Betel Leaves (Piper Betle L.) And Breadfruit Leaves (Artocarpus Atilis) In Reducing Uric Acid Levels In Hyperuricemic Male White Rats (Rattus Norvegicus)	23
MS - 03 EFFECTIVITY OF TOMATO (Solanum lycopersicum) AND ZINC COMBINATION TO SPERMS OF MALE WHITE RATS (Rattus norvegicus) EXPOSED TO MONOSODIUM GLUTAMATE.....	24
MS - 04 The Level Short Chain Fatty Acids and HSP 70 in Colorectal Cancer and Non Colorectal Cancer	25
MS - 05 Antimicrob activity of Whey Mare's Milk Against Salmonella enteritidis	26
MS - 06 FAS and FASL Polymorphism and Susceptibility to Hepatitis B Virus Infection in Javanese Individuals.....	27



MS – 27	The Aquatic Environmental Quality of Koi Fish (<i>Cyprinus carpio</i>) Pond Infected by <i>Myxobolus</i> sp. Based on the Biological Status of the Phytoplankton	48
MS – 28	The Efficacy of Goat Milk Yogurt for Hypercholesterolemic rats (<i>Rattus norvegicus</i>) models	49
MS – 29	Chondrocyte Pericellular Matrix Strain Fields Of Articular Cartilage Surface In Hyperglycemia Model Of Rat: Cellular Morphological Study.....	50
MS – 30	Anti-inflammatory Effect of Ethyl Acetate Fraction of Galing Plant Extract (<i>Cayratia trifolia</i>) on Male Wistar Rats Induced by Carrageenan.....	51
MS – 31	Activity of Combination <i>Persea americana</i> Mill and <i>Orthosiphon aristatus</i> (Blume) Miq. Benth Extract in dissolving Calcium Oxalate by In Vitro	52
MG – 01	Changes in Endometrial α β 3 Integrin Expression of <i>Macaca nemestrina</i> after Administration of Gonadotropin dose of 30-70 IU/day in Controlled Ovarian Hyperstimulation Procedure	53
MG – 02	Development of a Functional Assay to Study The Impact of CHD7 Missense Mutations in CHARGE Syndrome	54
MG – 03	Prospects and Problems the Amplification of Dna Metagenomic From Clove Plant Collected from Plantation Community in Ternate Island	55
MG – 04	Phylogenetics Relationship of the Genus <i>Cyrtodactylus</i> (Squamata; Gekkonidae) From Java and Sumatra Based on ND4 Gene	56
BB– 01	Topical Gel Formulation of Sponge Extract Nanoemulsion with Various Concentration of CMCNa	57
BB– 02	The correlation of Knowledge in Preganant Women and Huband Support with Antenatal Care (ANC) Compliance at Puskesmas Kersana Brebes	58
BB– 03	Google Trend Analysis on Realization Scope of Pekan Imunisasi Nasional 2016.....	59
BB– 04	Decomposition Rate of Many Organic Waste Using Innovative Biopore	60
BB– 05	A Biomass (Champo Leaf) Astable Multivibrator memory circuit	61
PT – 01	The Effects of Anti-diabetic Metals (V, Mo, W, and Cr) on Cellular Metabolism of Insulin-Sensitive Cells	62
PT – 02	Conserved Amino Acid Residues of LexA Repressor of ESKAPE Pathogens and its Potential as a Drug Target.....	63
PT – 03	Cryoprotectant Combination Ethylene Glycol and Propanediol on Mice Blastocyst Viability Post Vitrification.....	64
PT – 04	Okra Infusion Water Improving SOD and CRP Level on Diabetic Induced Rats	65
PT – 05	Visual, Organoleptic and Physical Detection as Qualitative Indicators of Formalin-containing Food: Experimental Study on Skipjack Fish Meat (<i>Katsuwonis pelamis</i>)	66
MVS – 01	Reproductive Characters of Senduro Goat at District of Lumajang East Java.....	67
MVS – 02	Oviduct Specific Glycoprotein Expresion in Goats (<i>Capra aegagrus</i>) Testes and Ovariums	68



ID	Presenter	Title	Schedule
PT-01	<u>Anna Safitri</u> , Aviva Levina and Peter A. Lay	The Effects of Anti-diabetic Metals (V, Mo, W and Cr) on Cellular Metabolism of Insulin-Sensitive Cells	13.00-13.10
PT-02	<u>Rio Risandiansyah</u> , Reza Hakim and Yoni R. Bintari	Conserved Amino Acid Residues of LexA Repressor of ESKAPE Pathogens and its Potential as a Drug Target	13.10-13.20
PT-03	<u>Adinda Kresna</u> , Widjiati and Tita Damayanti	Ctyoprotectant Combination Ethylene Glycol and Propandiol on Mice Blastocyst Viability Post Vitrification	13.20-13.30
PT-04	<u>Nurina Tyagita</u> , Kurnia P. Utami, Fitriani H. Zulkarnain and Azizah H. Safitri	Okra Infusion Water Improving SOD and CRP Level on Diabetic Induced Rats	13.30-13.40
PT-05	<u>Johana Z. Wantania</u> and Alfonds A. Maramis	Visual, Organoleptic and Physical Detection as Qualitative Indicators of Formalin-containing Food: Experimental Study on Skipjack Fish Meat (<i>Katsuwonis pelamis</i>)	13.40-13.50

Okra Infusion Water Improving SOD and CRP Level on Diabetic Induced Rats

Nurina Tyagita^{1*}, Kurnia Putri Utami², Fitrihanif Zulkarnain³, and Azizah Hikma Safitri⁴

¹ Biochemistry Department, Medical Faculty of Sultan Agung Islamic University, Semarang

nurinatyagita@unissula.ac.id

² Medical Faculty of Sultan Agung Islamic University, Semarang kurniaputri.utami@yahoo.com

³ Medical Faculty of Sultan Agung Islamic University, Semarang hanif.fitrihanif000@gmail.com

⁴ Biochemistry Department, Medical Faculty of Sultan Agung Islamic University, Semarang

safitriazizahhikma@gmail.com

*Corresponding author: nurinatyagita@unissula.ac.id

INTRODUCTION. Chronic hyperglycemia on Diabetes Mellitus type 2 progression leads to inflammation and oxidative stress [1], [2]. Combination of inflammation and oxidative stress triggers various complication including macro and microvascular disturbance, and also death [3]. Blood glucose controlling is mandatory to prevent this damages, either using oral hypoglycemic agent [4] or medicinal plant, such as okra. This study investigate the effectiveness of okra infusion water (OIW) in improving CRP and SOD. **METHODS.** Posttest only control group design was used in this study. Using 24 male Wistar rats, divided randomly into 4 groups: Control, received no induction nor treatment, 3 groups were induced by 65 mg/kg bW streptozotocine and 110 mg/kg BW nicotinamide: STZ, METF, OKRA. After successfully induced, METF & OKRA were given 9 mg metformin and 3.6 ml OIW for 28 days. Blood samples collected at day 40. CRP and SOD tested using ELISA. Data was analyzed using ANOVA and followed by LSD posthoc test ($p < 0.05$). **RESULTS AND DISCUSSION.** SOD level on OKRA group was much higher than SOD level on STZ group ($p < 0.05$). Other study found that okra reduced ROS level on rats. Quercetin in okra is a potential antioxidant, functioning in quenching ROS, chelating metal ions and inhibit oxidases activity [5]. Decreased ROS production will enhance SOD level, as first line antioxidant [6]. CRP level on OKRA group was lower than those on STZ group ($p < 0.05$). Okra administration was able to attenuate pro-inflammatory cytokines, such as TNF- α and IL-1 β . Okra reduced Lipopolysaccharide (LPS) induced NF-kB p65 phosphorylation. Okra also inhibited LPSinduced Akt phosphorylation, which is an upstream molecule of NF-kB [5].



Fig.1. Mean CRP & SOD level
* $p < 0.05$, comparing to STZ
$p < 0.05$, comparing to Control

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