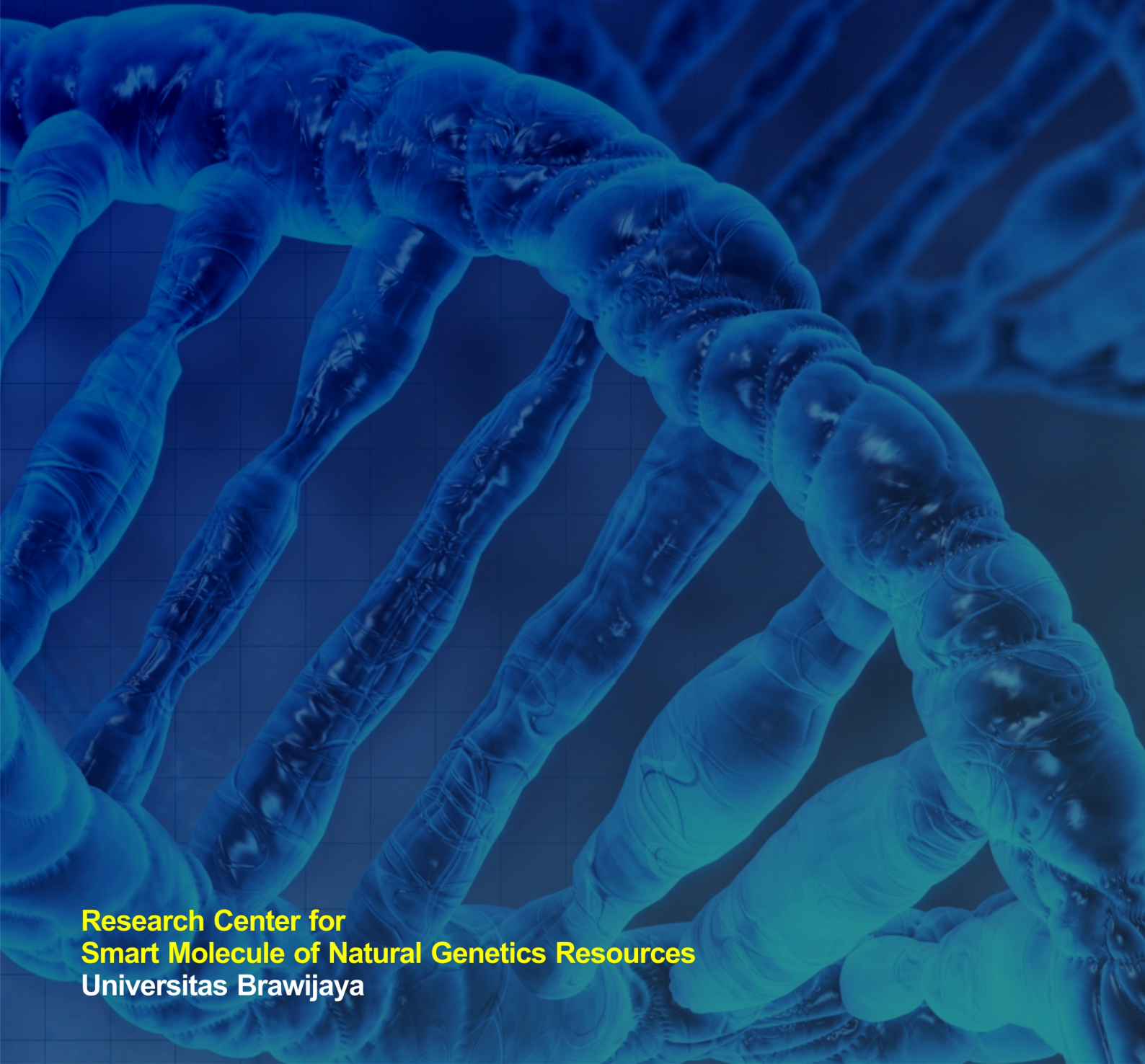
P-ISSN: 2686-0805

OCTOBER 2019, VOL 01 NO 01

jsmartech.ub.ac.id

JSMARTech

JOURNAL OF SMART BIOPROSPECTING AND TECHNOLOGY



Research Center for
Smart Molecule of Natural Genetics Resources
Universitas Brawijaya

p-ISSN 2686-0805

JSMARTech : Journal of Smart Bioprospecting and Technology

JSMARTech : Journal of Smart Bioprospecting and Technology (p-ISSN 2686-0808) is an Open Access Scientific Journal published Research Center for Smart Molecule and Natural Genetics Resources, Universitas Brawijaya, Malang, East Java, Indonesia since 2019. It is cover all aspects of bioprospecting and technology, including biochemical, genetics, biotechnology, bioinformatics, natural product, metabolism, biopharmaceuticals, biodiversity, systematics, biomedical, molecular biology, molecular genetics, nutrigenomic, herbal medicine, DNA barcoding, nanotechnology, agriculture, and bioremediation. The journal publishes a manuscript written in English for original research papers, short communications, and review articles. JSMARTech publishes two issues each year.

EDITORIAL TEAM

Editor in Chief

Prof. Dra. Fatchiyah, M.Kes.,Ph.D
Biology Department, Faculty of Mathematics and Natural Sciences, Universitas Brawijaya, Indonesia

Managing Editor

Anna Safitri, M.Sc., Ph.D
Chemistry Department, Faculty of Mathematics and Natural Sciences, Universitas Brawijaya, Indonesia

Editorial Board

Associate Professor Roswanira Abdul Wahab, Ph.D
Chemistry Department, Faculty of Science, Universiti Teknologi Malaysia, Malaysia

Sakesit Chumnarnsilpa, Ph.D
School of Chemistry, Suranaree University of Technology, Thailand

Chandra Kirana, M.Sc.,Ph.D
Faculty of Health and Medical Sciences, The University of Adelaide, Australia

Eko Suyanto, S.Si., M.Sc.
Biology Department, Faculty of Mathematics and Natural Sciences, Universitas Brawijaya, Indonesia

Cleonara Yanuar Dini, S.Gz, Dietisien, M.Sc.
Nutrition Science Department, Faculty of Medicine, Universitas Brawijaya, Indonesia

Editorial Team would like to thank to peer reviewer who has been invited by JSMARTech : Journal of Smart Bioprospecting and Technology Volume 1 Number 1, 2019

Dr. Sentot Joko Raharjo, M.Si.
Academic of Pharmacy and Food Analysis of Putra Indonesia Malang, Indonesia

Irfan Mustafa, S.Si.,M.Si.,Ph.D
Biology Department, Faculty of Mathematics and Natural Sciences, Universitas Brawijaya, Indonesia

Didik Huswo Utomo, M.Si.
School of Bioagricultural Sciences, Nagoya University, Japan

PREFACE

All of our gratitude goes to Almighty God because of His blessed. At the moment, we proudly present of JSMARTech: Journal of Smart Bioprospecting and Technology on October 2019. In this first edition, JSMARTech presents various research result about bioinformatics, natural product and biochemical technology. The articles begins with virtual prediction of thymoquinone and β-glucan interaction as ER-α receptor to reduce the breast cancer signaling pathway. It can undergo conformational changes in ligand binding domain of ER-α receptor. The thymoquinone-β-glucan complex could block the His476 and Met438 in down regulating breast cancer signaling pathway. Molecular docking analysis of allopurinol, cucurbitacin B, morindine and piperine shown that cucurbitacin B and morindine has high potential as xanthine oxidase inhibitor. In the other study, molecular docking of benzo[a] pyrene (BaP), one of the polycyclic aromatic hydrocarbons type, it had a higher risk leading to cancer through binding with aryl hydrocarbon receptor. The yellow *Kepok* banana peel extract was reported able as antibacterial for chronic periodontitis caused by *Porphyromonas gingivalis*. In this edition, we also presents about comparison of virtual analysis of diosgenin and tigogenin which has potential down regulating androgen signaling. This study reported that androgen receptor with tigogenin is more potential in the down regulating mechanisms of androgen signaling.

The publication of this edition is also a hard work and the attention of many parties, therefore the Editorial team thank to reviewers who willing to provide inputs and criticisms for improving the writing quality. The members of the editors who have spent their time to let this issue can be published properly. May the articles in this journal can be beneficial to the readers and be a reference for future studies.

Regards,
Editorial Team

TABLE OF CONTENTS

Editorial Team i

Preface ii

Table of Contents iii

Virtual Prediction of Thymoquinone and β-Glucan Interaction as Estrogen Receptor-Alpha (ER-α receptor) May Reducing on The Breast Cancer Signaling Pathway 1

Analysis of Allopurinol, Cucurbitacin B, Morindine, and Piperine as Xanthine Oxidase Inhibitor by Molecular Docking 6

Molecular Docking of Polycyclic Aromatic Hydrocarbons as Potentially Carcinogenic Molecules through Binding with Aryl Hydrocarbon Receptor 12

The Use of Yellow *Kepok* Banana Peel Extract (*Musa paradisiaca* L. *var. bluggoe* as an Antibacterial for Chronic Periodontitis Caused by *Porphyromonas gingivalis* 16

Comparison of Virtual Analysis of Diosgenin and Tigogenin which has Potential Down Regulating Androgen Signaling 21

Author guidelines ..... App. 1