FOLIA MEDICA INDONESIANA
Vol. 42 No. 1 January - March 2006

TOXOPLASMA GONDII INFECTION ELICITS THE INCREASE OF FAS EXPRESSION ON THE TROPHOBLAST ASSOCIATED WITH THE INCREASE OF TROPHOBLAST APOPTOSIS
(Lucie Tri Suvandy, Rachman Sesmita, Suhartono Teet Putra)

EFFECT OF LASER AT PISHU POINT ON AMOUNT AND FUNCTION OF PANCREATIC β CELLS (RATTUS NORVEGICUS) INJECTED BY STREPTOZOOCIN
(Adreanaker)

THE EFFECTS OF UNILATERAL URETHRAL OBSTRUCTION ON TUBULAR CELLS APOPTOSIS. AN EXPERIMENTAL STUDY IN RABBITS
(Daryanto B, Soebadhi DM, Soetajo, Sunaryo Hartowijoto)

ANTIMICROBIAL ACTIVITIES OF ANDROGRAPHOLID AND PROPOLIS AGAINST INTRACELLULAR MYCOBACTERIUM TUBERCULOSIS PHAGOCYTIZED BY MONOCYTES DERIVED MACROPHAGES
(Menik R. Wahyuningsih, Ni Made Marniasih, Dian Rechmawi)

THE 2-METHOXYETHANOL TOXICITY TOWARDS THE STRUCTURES OF PLASMA MEMBRANE AND MITOCHONDRIA OF THE RAT'S SPERMATOZOA
(Alfiah Hayati, Soesanto Manjokoedjojo, Aucky Hingso, Sukarti Moestopo)wiro)

GENOTYPING OF EXTENDED SPECTRUM β-LACTAMASE ESCHERICHIA COLI STRAINS FROM CLINICAL SPECIMENS
(Ni Made Mertaniasih et al)

MULTIRESISTANCE PATTERN OF EXTENDED SPECTRUM β-LACTAMASE (ESBL) - ESCHERICHIA COLI AND KLEBSIELLA PNEUMONIAE STRAINS
(Kantaman, Ni Made Mertaniasih, and Usman Hadi)

FEV1-REVERSIBILITY IN HOUSE-DUST IMMUNOTHERAPY COMPARED WITH INHALED CORTICOSTEROID IN THE TREATMENT OF CHILDHOOD ASTHMA
(Arijanto Hersono, Liša A. Subretto, Aneng Enderentoyo)

TRACHOMA IN PONDOK PESANTREN SALAFIYAH SYAFIYAH, SUKOREJO, SITUBONDO, EAST JAVA. A CASE STUDY
(Sjamsu Badiiono)

Review Article:
DEPRESSION IN POST-MYOCARDIAL INFARCTION PATIENTS
(Muhammad Ridwan)

Review Article and Clinical Experience:
THE MetS: ONE OF THE MAJOR THREAT TO HUMAN HEALTH
(Askandar Tjikoprawiro)

Published by:
GRAMIK
AIRLANGGA UNIVERSITY SCHOOL OF MEDICINE
Accredited no. 39/DIKTI/Kep/2004
International Online Distribution by ProQuest™
www.proquest.com
<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Toxoplasma Gondii Infection Elicits The Increase of Fas Expression on The Trophoblast Associated with The Increase of Trophoblast Apoptosis</td>
<td>1 - 5</td>
</tr>
<tr>
<td>2</td>
<td>EFFECT OF LASER AT PISHU POINT ON AMOUNT AND FUNCTION OF PANCREATIC Î² CELLS (RATTUS NORVEGICUS) INJECTED BY STREPTOZOTOCIN</td>
<td>6 - 14</td>
</tr>
<tr>
<td>3</td>
<td>The Effects of Unilateral Urethral Obstruction on Tubular Cells Apoptosis:An Experimental Study in Rabbits</td>
<td>15 - 21</td>
</tr>
<tr>
<td>4</td>
<td><strong>Antimicrobial Activities of Andrographolide and Propolis Against Intracellular Mycobacterium Tuberculosis Phagocytosed by Monocytes Derived Macrophages</strong></td>
<td>22 - 27</td>
</tr>
<tr>
<td>5</td>
<td>The 2-Methoxyethanol Toxicity Towards The Structures of Plasma Membrane and Mitochondria of The Ratâ€™s Spermatozoa</td>
<td>28 - 32</td>
</tr>
<tr>
<td>6</td>
<td>Genotyping of Extended Spectrum Î¹-Lactamase Escherichia Coli Strains from Clinical Specimens</td>
<td>33 - 39</td>
</tr>
<tr>
<td>7</td>
<td>MULTIRESISTANCE PATTERN OF EXTENDED SPECTRUM Î²-LACTAMASE (ESBL) â€“ ESCHERICHIA COLI AND KLEBSIELLA PNEUMONIAE STRAINS</td>
<td>40 - 46</td>
</tr>
<tr>
<td>8</td>
<td>FEV1-Reversibility in House-Dust Immunotherapy Compared with Inhaled Corticosteroid in The Treatment of Childhood Asthma</td>
<td>47 - 53</td>
</tr>
<tr>
<td>9</td>
<td>Trachoma in Pondok Pesantren Salafiyah Syafiyyah, Sukorejo, Situbondo, East Java. A Case Study</td>
<td>54 - 61</td>
</tr>
<tr>
<td>10</td>
<td>Review Article : Depression in Post-Myocardial Infarction Patients</td>
<td>62 - 70</td>
</tr>
<tr>
<td>11</td>
<td>Review Article and Clinical Experience: THE MetS: ONE OF THE MAJOR THREAT TO HUMAN HEALTH</td>
<td>71 - 76</td>
</tr>
</tbody>
</table>
Antimicrobial Activities of Andrographolide and Propolis Against Intracellular Mycobacterium Tuberculosis Phagocytosed by Monocytes Derived Macrophages

Abstract

One of the major health problems worldwide is Tuberculosis (TB). According to WHO report, Indonesia has the third highest TB prevalence. Due to the fact of multidrug resistance, there is an urgent need for more potent antibiotics and other drugs. Natural products have been regarded as one of the most successful strategies for creating new medicines. The plant andrographolide and propolis is a superb immune system enhancer in TB, and might be more effective when combined to achieve an higher effect. Macrophages are central effector cells of host defence mechanisms against mycobacteria. However, M. tuberculosis uses macrophages as its preferred habitat. It is not much known how macrophages either kill M. tuberculosis or become its breeding ground. In the present study we investigated the costimulant action of Andrographis paniculata and propolis associated with bactericidal activity on macrophages. Incubation of monocytes derived macrophages of healthy participants with the extract of A. paniculata and propolis activated bactericidal activity against intracellular Mycobacterium tuberculosis, but no significant effect on the macrophages of tuberculosis patient. These findings suggest that andrographolide and propolis may have a limited effect on bactericidal activity in tuberculosis patient.

Keyword : andrographolide, propolis, macrophages, tuberculosis, ,

Daftar Pustaka :


. no info : Biol. Pharm. Bull
29. A Panossian, (2002). Effect of andrographolide and Kan Jang-fixed combination of extract SHA-10 and extract SHE-3- on proliferation of human lymphocytes, production of cytokines and immune activation markers in the whole blood cells culture. no info : Phytomedicine
30. T Davtyan, (2002). Effect of andrographolide and Kan Jang-fixed combination of extract SHA-10 and extract SHE-3- on proliferation of human lymphocytes, production of cytokines and immune activation markers in the whole blood cells culture. no info : Phytomedicine
31. N Gukassyan, (2002). Effect of andrographolide and Kan Jang-fixed combination of extract SHA-10 and extract SHE-3- on proliferation of human lymphocytes, production of cytokines and immune activation markers in the whole blood cells culture. no info : Phytomedicine
32. G Gukasova, (2002). Effect of andrographolide and Kan Jang-fixed combination of extract SHA-10 and extract SHE-3- on proliferation of human lymphocytes, production of cytokines and immune activation markers in the whole blood cells culture. no info : Phytomedicine
33. G Mamikonyan, (2002). Effect of andrographolide and Kan Jang-fixed combination of extract SHA-10 and extract SHE-3- on proliferation of human lymphocytes, production of cytokines and immune activation markers in the whole blood cells culture. no info : Phytomedicine
34. E Gabrielian, (2002). Effect of andrographolide and Kan Jang-fixed combination of extract SHA-10 and extract SHE-3- on proliferation of human lymphocytes, production of cytokines and immune activation markers in the whole blood cells culture. no info : Phytomedicine
35. G Wikman, (2002). Effect of andrographolide and Kan Jang-fixed combination of extract SHA-10 and extract SHE-3- on proliferation of human lymphocytes, production of cytokines and immune activation markers in the whole blood cells culture. no info : Phytomedicine

39. S Scheller, (1999). Synergism between ethanolic extract of propolis (EEP) and anti-tuberculosis drugs on growth of mycobacteria™
   . no info : Z Naturforsch [C]

40. S Dworniczak, (1999). Synergism between ethanolic extract of propolis (EEP) and anti-tuberculosis drugs on growth of mycobacteria™
   . no info : Z Naturforsch [C]

41. K Waldemar-Klimmek, (1999). Synergism between ethanolic extract of propolis (EEP) and anti-tuberculosis drugs on growth of mycobacteria™
   . no info : Z Naturforsch [C]

42. M Rajca, (1999). Synergism between ethanolic extract of propolis (EEP) and anti-tuberculosis drugs on growth of mycobacteria™
   . no info : Z Naturforsch [C]

43. A Tomczyk, (1999). Synergism between ethanolic extract of propolis (EEP) and anti-tuberculosis drugs on growth of mycobacteria™
   . no info : Z Naturforsch [C]

44. J Shani, (1999). Synergism between ethanolic extract of propolis (EEP) and anti-tuberculosis drugs on growth of mycobacteria™
   . no info : Z Naturforsch [C]