EFFECT OF SODIUM NITRITE (NaNO2) TO ERYTHROCYTE AND HEMOGLOBIN PROFILE IN WHITE RAT
(Rattus norvegicus)
(Rini Ambawati)

SYNTHESIS OF BETA FERTILIN PROTEIN POLYCLONAL ANTIBODY OF HUMAN SPERM MEMBRANE
AS A CANDIDATE FOR IMMUNOCONTRACEPTIVE MATERIAL
(Ninik Darini, Hamdani Luniandhi, R. Haryanto Aswin, Reny Itishom, Aucky Hiting)

LONG-TERM GLUCOCORTICOIDS EFFECTS OF BONE LINING CELLS APOPTOSIS
(Gadis Meinar Sari)

ZINC SULFATE INCREASES LYMPHOCYTE CD4 COUNT IN HIV/AIDS PATIENTS AT ICUID
DR. SOETOMO HOSPITAL SURABAYA
(Adhiyanti Asikin, Bambug W. Joeiwone Soeroso)

SUPPORT GROUP EFFECT ON CD4 LEVELS IN PLHWA WHO RECEIVED ART IN UPII RSUD
Dr. SOETOMO SURABAYA
(Widiya Nurcahyaningtyas, Widodo J Fudjirahari, Purwaningsih, Erwin Astha Triyono)

INTENSITY OF SWIMMING EXERCISE AS CHRONIC STRESS INDUCTION TOWARDS EXPRESSION OF
GLUCOSE TRANSPORTER 1 (GLUT1) IN BRAIN CAPILLARY ENDOTHELIAL OF RATS
(Rattus norvegicus)
(Hayuri Kinarita, Liliik Herawati, Harline)

THE TRAINING OF WAGGLER MONITORING OF PRIMARY SCHOOL TEACHERS AND STUDENTS
IN SURABAYA TO IMPROVE ERADICATION OF DENQUE HEMORRAGHIC FEVER
(Florentina Susini, Susilowati Andajani, Atika)

IMPLEMENTATION OF SAFETY WORK FOR NURSE IN HANDLING HIV/AIDS PATIENTS
(Aninda Nugrahani Tris Ulami, M. Suksmono, Erwin Astha Triyono)

Case Report:
POSTERIOR INTEROSSEOUS NERVE COMPRESSION
SYNDROME
(Rosi Setiauwati)
<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>EFFECT OF SODIUM NITRITE (NaNO2) TO ERITHROCYTE AND HEMOGLOBIN PROFILE IN WHITE RAT (Rattus norvegicus)</td>
<td>1 - 5</td>
</tr>
<tr>
<td>2</td>
<td>SYNTHESIS OF BETA FERTILIN PROTEIN POLYCLONAL ANTIBODY OF HUMAN SPERM MEMBRANE AS A CANDIDATE FOR IMMUNOCONTRACEPTIVE MATERIAL</td>
<td>6 - 11</td>
</tr>
<tr>
<td>3</td>
<td>LONG-TERM GLUCOCORTICOIDS EFFECTS OF BONE LINING CELLS APOPTOSIS</td>
<td>12 - 16</td>
</tr>
<tr>
<td>4</td>
<td>ZINC SULFATE INCREASES LYMPHOCYTE CD4 COUNT IN HIV/AIDS PATIENTS AT ICUID DR. SOETOMO HOSPITAL SURABAYA</td>
<td>17 - 19</td>
</tr>
<tr>
<td>5</td>
<td>SUPPORT GROUP EFFECT ON CD4 LEVELS IN PLWHA WHO RECEIVED ART IN UPII RSUD Dr. SOETOMO SURABAYA</td>
<td>20 - 23</td>
</tr>
<tr>
<td>6</td>
<td>INTENSITY OF SWIMMING EXERCISE AS CHRONIC STRESS INDUCTION TOWARDS EXPRESSION OF GLUCOSE TRANSPORTER 1 (GLUT1) IN BRAIN CAPILLARY ENDOTHELIAL OF RATS (Rattus norvegicus)</td>
<td>24 - 27</td>
</tr>
<tr>
<td>7</td>
<td>THE TRAINING OF WIGGLER MONITORING OF PRIMARY SCHOOL TEACHERS AND STUDENTS IN SURABAYA TO IMPROVE ERADICATION OF DENGUE HEMORRHAGIC FEVER</td>
<td>28 - 31</td>
</tr>
<tr>
<td>8</td>
<td>IMPLEMENTATION OF SAFETY WORK FOR NURSE IN HANDLING HIV/AIDS PATIENTS</td>
<td>32 - 36</td>
</tr>
<tr>
<td>9</td>
<td>Case Report: POSTERIOR INTEROSSEOUS NERVE COMPRESSION SYNDROME</td>
<td>37 - 42</td>
</tr>
</tbody>
</table>
INTENSITY OF SWIMMING EXERCISE AS CHRONIC STRESS INDUCTION TOWARDS EXPRESSION OF GLUCOSE TRANSPORTER 1 (GLUT1) IN BRAIN CAPILLARY ENDOTHELIAL OF RATS (Rattus norvegicus)

INTENSITY OF SWIMMING EXERCISE AS CHRONIC STRESS INDUCTION TOWARDS EXPRESSION OF GLUCOSE TRANSPORTER 1 (GLUT1) IN BRAIN CAPILLARY ENDOTHELIAL OF RATS (Rattus norvegicus)

Abstract

Stress can lead positive or negative effect on the body, depending on the duration and intensity of stress. Prolonged stress will cause neurodegenerative disease or cognitive impairment through disruption in brain neurotransmitter systems, biomolecular level of the brain, and brain metabolism. Potential Regulation of Glucose Transporter-1 (GLUT1) in the blood-brain barrier responds to various stress-related brain pathological conditions. The purpose of this study is to explain the influence of chronic stress intensity towards expression of glucose transporter-1 in the brains of rat. This study used 30 rats (Rattus norvegicus) male wistar strain which divided into 3 groups: control group (K0), the treatment of swimming training in severe intensity (K1) and swimming training in mild intensity (K2). Examination was conducted on GLUT1 expression in endothelial cells of the brain that be observed using immunohistochemical staining techniques. The results showed that there was depletion of GLUT1 expression in brain endothelial due to swimming training in severe intensity and swimming training in mild intensity. GLUT1 expression depletion in brain endothelial of severe intensity group was greater than in mild intensity group with p <0.05. (FMI 2012;48:24-27)

Keyword : GLUT1, (glucose, transporter-1), chronic, stress, brain,

Daftar Pustaka :