Malaria was reported remained as the most threatening human parasitic disease. In line with this, endophytic *Streptomyces* are potential sources for novel bioactive molecules. In this study, a type of diketopiperazine (DKP) known as Gancidin W (GW, C$_{12}$H$_{14}$N$_{2}$O$_{3}$) was successfully isolated from *Streptomyces SUK10* that inhabited in the bark of *Shorea ovalis*. Using four days suppressive test (4DST), this compound was *in-vivo* tested against *Plasmodium berghei* NK65. At 3.125 μg/kg body weight (bw), there was a significant relationship of ability to inhibit the growth of *P. berghei* NK65 when GW exhibited an inhibition rate of nearly 80% on male ICR strain mice. Comparing with quinine hydrochloride and 0.9% normal saline as the controls, 50% of the mice in this group was managed to survive more than 230 days. Although ALT and AST level was slightly higher, there was no abnormalities were found on the tested organs. These findings indicated that GW isolated from *Streptomyces SUK10* exhibited very low toxicity and is a good candidate as a potential antimalarial agent.

**RESULTS**

**BIOCHEMICAL TEST FOR ALT, AST, ALP AND STP IN TOXICITY ASSESSMENT**

<table>
<thead>
<tr>
<th>Test</th>
<th>TA</th>
<th>TD</th>
<th>TC</th>
<th>TD</th>
<th>CN</th>
<th>CI</th>
<th>NR</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL</td>
<td>41.81</td>
<td>45.20</td>
<td>67.57</td>
<td>94.03</td>
<td>41.03</td>
<td>44.83</td>
<td>40 – 90</td>
<td>IU/L</td>
</tr>
<tr>
<td>AST</td>
<td>133.13</td>
<td>125.93</td>
<td>167.76</td>
<td>209.01</td>
<td>171.62</td>
<td>194.43</td>
<td>92 – 206</td>
<td>IU/L</td>
</tr>
<tr>
<td>AL</td>
<td>2.04</td>
<td>2.12</td>
<td>2.27</td>
<td>2.69</td>
<td>1.79</td>
<td>1.27</td>
<td>54 – 115</td>
<td>IU/L</td>
</tr>
<tr>
<td>STP</td>
<td>6.12</td>
<td>2.32</td>
<td>7.21</td>
<td>9.33</td>
<td>8.83</td>
<td>7.93</td>
<td>54 – 9.5</td>
<td>g/dL</td>
</tr>
</tbody>
</table>

**ACUTE SUB-ACUTE CONTROL**

**REFERENCES**


**CONCLUSION**

Gancidin W isolated from *Streptomyces SUK10* is a very good bioactive property and a potential substance as an anti-malarial agent.

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Ministry of Higher Education Malaysia (UKM-NN03-FRGS-0042-2009), Universiti Kebangsaan Malaysia (UKM_GUP-TKF-08-22-074) and also financial supports from International Islamic University Malaysia (IUM).