Bacteriology-2013

OMICS Group Conferences
Accelerating Scientific Discovery

International Congress on
Bacteriology & Infectious Diseases

November 20-22, 2013 DoubleTree by Hilton Baltimore-BWI Airport, USA

Synthesis of some novel pyrazoline derivatives as antimalrial and antileishmanial activities

Balkew Zewge

Debre Markos University Natural, Ethiopia

Abstract

Pyrazoline derivatives are class of compounds having different biological activities including the neglected tropical diseases: malaria and leishmania. Taking their promising antimalarial and antileishmanial activities in to account, twelve thienylpyrazoline derivatives were synthesized in good yields (70.3-89.7%) by using Aldol condensation, Michael addition and cyclizationreactions. Elemental microanalysis, IR, ^{1}HNMR and ^{13}CNMR are used to verify the structures of the synthesized compounds. The invivo antimalarial activities of the target compounds were evaluated using mice infected with P. berghi ANKA strain. The in vitro antileishmanial activities of the synthesized compounds were evaluated using Leishmania aethiopica isolate.

The synthesized compounds showed pronounced antimalarial activities with percent suppression of 52.31-93.46 which was significantly different from the negative group (P>0.05). Among the synthesized compounds, **III** and **VII** displayed superior antimalarial activities with percent suppression of 90.87 and 93.46 respectively. All the synthesized compounds displayed comparable antileishmanial activities to the standard drug miltifosine (IC_{50} = 3.1911µg/ml). Compound**V**showed promising antileishmanial activities (IC_{50} = 0.0256µg/ml) which is approximately two times more active than the standard drugamphotericin B deoxycholate (IC_{50} = 0.0460µg/ml). In addition the synthesized of compounds are devoid of any inherent acute toxicity symptoms.

Biography

Balkew Zewge has completed his BSc degree in chemistry and Msc degree in medicinal chemistry at the age of 26 years from Bahir Dar university and Addis baba university respectively. He is the head in the department of chemistry, and doing several researches and providing community service. He has submited research article for peer review journal