

# Analgesic and Hepatoprotective Activity of Methanolic Leaf Extract of *Ocimum gratissimum* (L.).

- **Source:** Research Journal of Medicinal Plant . 2012, Vol. 6 Issue 7, p108-115. 8p.
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- **Subject Terms:** \*ANALGESICS \*HISTOLOGY, Pathological \*PLANT extracts \*BASIL \*RATS as laboratory animals \*ASPIRIN \*REACTION time \*CARBON tetrachloride
- **Abstract:** The methanolic extract of *Ocimum gratissimum* (L.) leaves was screened for analgesic and hepatoprotective activity in albino rats, respectively. The use of the hot-plate method to study central analgesic activity of the leaves extract in albino rats indicated that the extract possesses the ability to significantly reduce pain threshold and also increase the response latency period to thermal stimuli in albino rats, similar to the reference drug acetylsalicylic acid. After treatment reaction time of albino rats was significantly increased to 10.92 sec with 40 mg kg<sup>-1</sup> of leaves extract, whereas acetylsalicylic acid also increased reaction time to 12.53 sec with 25 mL kg<sup>-1</sup>. A decline in the reaction time beyond 1.61 sec was observed by the reference drug and leaves extract. Albino rats whose livers were damaged with a hepatotoxin-Carbon tetrachloride (CCl<sub>4</sub>) 0.5 mL kg<sup>-1</sup> i.p. were used to test for hepatoprotective properties of the plant leaves extract. It reduced significantly (p<0.05) liver enzyme levels for animals treated with CCl<sub>4</sub> (0.5 mL kg<sup>-1</sup>) and the methanolic plant leaf extract (40 mg kg<sup>-1</sup>) concurrently compared to animals treated with CCl<sub>4</sub> only. Many histopathological changes in the liver such as marked dilation of the central vein, blood vessel congestion and inflammatory leucocytic infiltrations which were observed in the CCl<sub>4</sub> treated animals were not observed in the CCl<sub>4</sub> + plant extract treated animals. No apparent disruptions of the normal liver structure by histological and enzyme activities assessment were observed. The results show that the methanolic leaf extract is a potent analgesic and antihepatotoxic agent.
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