



# Antioxidant and antiapoptotic activities of *Calotropis procera* latex on Catfish (*Clarias gariepinus*) exposed to toxic 4-nonylphenol

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## Abstract:

*Calotropis procera* L. is known as medicinal plant. The Phytochemical analyzes of its latex revealed that it possessed antioxidants, namely terpenes, phenolic compounds and cardenolides, flavonoids and saponins, while tannins, alkaloids and resin were absent in moderate to high concentration. In the present study, the role of latex of *Calotropis procera* as antioxidant and antiapoptotic was reported. To carry out this aim, fishes were exposed to 100 mg l<sup>-1</sup> 4-nonylphenol as chemical pollutant. The enzymes, superoxidase dismutase, catalase, acetylcholinestrane (AChE), glutathione s-transferase, cortisol, G6PDH) and apoptotic cells increased significantly (p<0.05) accompanied by irregular disturbance of (Na<sup>+</sup>, K<sup>+</sup>) ions in the presence of 4-nonylphenol. On the other hand, these enzymes, ions, and apoptotic cells decreased normally and significantly (p<0.05) in the presence of latex. Total phenol content, total capacity antioxidant, reducing power decrease significantly (p<0.05) in the presence of 4-nonylphenol and increase normally in the presence of latex. Latex was used for the first time to protect catfish after 4-nonylphenol exposure. Our study confirms that crude latex of *Calotropis procera* possessed antioxidant and antiapoptotic activities against the toxicity of 4-Nonylphenol.

## Keywords:

*Calotropis procera*; Latex; Antioxidant; Apoptosis; Catfish; 4-nonylphenol

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