

# Alkylamides from *Acmella oleracea*: antinociceptive effect and molecular docking with cannabinoid and TRPV1 receptors

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## Abstract

Alkylamides are secondary metabolites in *Acmella oleracea* and display wide applications in treating several diseases. Since alkylamides can inhibit pain, this work aims to evaluate the antinociceptive profile of *A. Oleracea* methanolic extracts used *in vivo* and *in silico* assays. The extracts inhibited the neurogenic and inflammatory phases of the formalin test, ratifying the antinociceptive effect of alkylamides. Furthermore, the results from molecular docking demonstrated the interaction of *A. oleracea* alkylamides with the CB1/CB2 and TRPV1 receptors. Additionally, the crude methanolic extract of flowers did not induce potential side effects related to the classical cannabinoid tetrad: hypolocomotion and catalepsy. In conclusion, this work confirms the potential of the alkylamides of *A. Oleracea* as antinociceptive agents and, for the first time, correlates its effects with the endocannabinoid and vanilloid systems through *in silico* assays.

**Keywords:** alkamides; cannabimimetics; jambu; spilanthol.