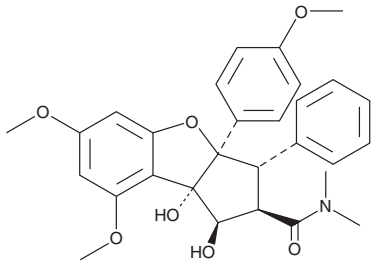
PRODUCT INFORMATION

Rocaglamide

Item No. 14841

CAS Registry No.: 84573-16-0
Formal Name: (1R,2R,3S,3aR,8bS)-2,3,3a,8b-tetrahydro-1,8b-dihydroxy-6,8-dimethoxy-3a-(4-methoxyphenyl)-N,N-dimethyl-3-phenyl-1H-cyclopenta[b]benzofuran-2-carboxamide
Synonyms: NSC 326408, Roc-A, Rocaglamide A
MF: $C_{29}H_{31}NO_7$
FW: 505.6
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Rocaglamide is supplied as a crystalline solid. A stock solution may be made by dissolving the rocaglamide in the solvent of choice, which should be purged with an inert gas. Rocaglamide is soluble in organic solvents such as ethanol and DMSO. The solubility of rocaglamide in these solvents is approximately 5 and 10 mg/ml, respectively.

Rocaglamide is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

Rocaglamide is an anti-inflammatory, insecticidal, and anticancer tetrahydrobenzofuran isolated from *Aglaia* species. It has been shown to inhibit both TNF-α and the activation of NF-κB in Jurkat T cells with IC_{50} values in the nanomolar range.[1] At 25 nM, rocaglamide induces apoptosis in various human leukemia cell lines, activating p38 MAPK/JNK and suppressing ERK.[2] Rocaglamide also reduces IFN-γ, TNF-α, IL-2, and IL-4 production in peripheral blood T cells at a concentration of 50 nM.[3] Furthermore, rocaglamide can inhibit the T cell expression of the immune response transcription factor, nuclear factor of activated T cells.[3]

References

1. Baumann, B., Bohnenstengel, F., Siegmund, D., *et al*. Rocaglamide derivatives are potent inhibitors of NF-kB activation in T-cells. *J. Biol. Chem.* **277(47)**, 44791-44800 (2002).
2. Zhu, J.Y., Lavrik, I.N., Mahlknecht, U., *et al*. The traditional Chinese herbal compound rocaglamide preferentially induces apoptosis in leukemia cells by modulation of mitogen-activated protein kinase activities. *Int. J. Cancer* **121(8)**, 1839-1846 (2007).
3. Proksch, P., Giaisi, M., Treiber, M.K., *et al*. Rocaglamide derivatives are immunosuppressive phytochemicals that target NF-AT activity in T cells. *J. Immunol.* **174(11)**, 7075-7084 (2005).

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