Rocaglamide is a potent inhibitor of NFkB in T-lymphocytes with almost complete inhibition at 200nM.\(^1\) It was able to completely inhibit IL-4 and IFN-\(\gamma\) production and suppress 60-85% of IL-2 and TNF-\(\alpha\) production at 50nM in T-cells without inhibiting AP-1 and NF-kB (conversely, at concentrations <100nM, it was shown to increase NF-kB activity).\(^2\) Immunosuppression activity was due to inhibition of cytokine gene expression via blocking of NF-AT activity and is a different mechanism than suppression via Cyclosporine a and FK-506. Rocaglamide has anti-cancer properties via various pathways including ERK inhibition\(^3\), ATM/ATR-Chk1/Chk2 activation\(^4\), and p38 and JNK activation\(^5\).

1) Baumann et al. (2002), Rocaglamide Derivatives Are Potent Inhibitors of NF-kB Activation in T-cells; J.Biol.Chem. 277 44791
2) Prolsch et al. (2005), Rocaglamide Derivatives Are Immunosuppressive Phytochemicals That Target NF-AT Activity in T Cells; J.Immunol. 174 7075
3) Polier et al. (2012), The natural anticancer compounds rocaglamides inhibit the Raf-MEK-ERK pathway by targeting prohibitin1 and 2; Chem.Biol. 19 1093
4) Neumann et al. (2014), The natural anticancer compound rocaglamide selectively inhibits the G1-S phase transition in cancer cells through the ATM/ATR-mediated Chk1/2 cell cycle checkpoints; Int.J.Cancer 134 1991
5) Zhu et al. (2007), The traditional Chinese herbal compound rocaglamide preferentially induces apoptosis in leukemia cells by modulation of mitogen-activated protein kinase activities; Int.J.Cancer 121 1839

**PHYSICAL DATA**

Molecular Weight: 505.57
Molecular Formula: C\(_{29}\)H\(_{31}\)NO\(_{7}\)
Purity: >97% by HPLC (Ascentis Express C18; 77:23, MeOH/water pH 5.6; 1.0 mL/min; 210nm)
Solubility: DMSO and ethanol
Physical Description: White solid/thin film
Storage and Stability: Store as supplied at -20°C for up to 2 years from the date of purchase. Solutions in DMSO or ethanol may be stored at 20°C for up to 1 month. Protect from exposure to moisture and light.

Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.

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