

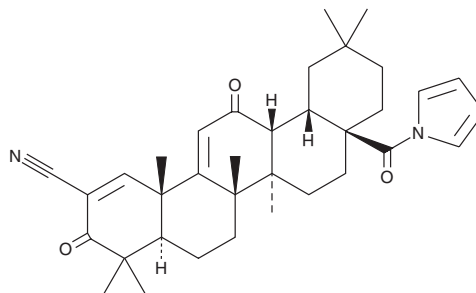
PRODUCT INFORMATION



CDDO-Im

Item No. 31763

CAS Registry No.: 443104-02-7
Formal Name: 1-(2-cyano-3,12,28-trioxooleana-1,9(11)-dien-28-yl)-1H-imidazole
Synonyms: CDDO-Imidazolide, RTA 403
MF: C₃₄H₄₃N₃O₃
FW: 541.7
Purity: ≥95%
UV/Vis.: λ_{max}: 243 nm
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

CDDO-Im is supplied as a crystalline solid. A stock solution may be made by dissolving the CDDO-Im in the solvent of choice, which should be purged with an inert gas. CDDO-Im is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of CDDO-Im in these solvents is approximately 1 mg/ml.

Description

CDDO-Im is a synthetic triterpenoid and an activator of Nrf2 signaling.^{1,2} It binds to Keap1, inhibiting the degradation of Nrf2 and leading to increased Nrf2 protein levels.² CDDO-Im (100 nM) increases the expression of Nrf2 target genes and activates heme oxygenase-1 (HO-1) in a reporter assay using CV-1 cells.¹ It also binds to PPAR γ and PPAR α (K_s = 344 and 232 nM, respectively) and induces PPAR γ transactivation in SW480 cells.^{3,4} It inhibits the production of nitric oxide synthase (NOS) in isolated mouse macrophages (IC₅₀ = 0.014 nM).⁵ CDDO-Im (300 nM) inhibits proliferation of U937 and MCF-7 cells and reduces fatty acid synthesis in LiSa-2 human liposarcoma cells when used at a concentration of 100 nM.^{6,7} It reduces tumor growth in a B16 murine melanoma model when administered at a dose of 50 μ g/animal twice per day.⁶

References

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3. Saha, P.K., Reddy, V.T., Konopleva, M., *et al.* The triterpenoid 2-cyano-3,12-dioxooleana-1,9-dien-28-oic acid methyl ester has potent anti-diabetic effects in diet-induced diabetic mice and Lepr(db/db) mice. *J. Biol. Chem.* **285(52)**, 40581-40592 (2010).
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5. Honda, T., Honda, Y., Favalaro, F.G., Jr., *et al.* A novel dicyanotriterpenoid, 2-cyano-3,12-dioxooleana-1,9(11)-dien-28-onitrile, active at picomolar concentrations for inhibition of nitric oxide production. *Bioorg. Med. Chem. Lett.* **12(7)**, 1027-1030 (2002).
6. Place, A.E., Suh, N., Williams, C.R., *et al.* The novel synthetic triterpenoid, CDDO-imidazolide, inhibits inflammatory response and tumor growth *in vivo*. *Clin. Cancer Res.* **9(7)**, 2798-2806 (2003).
7. Hughes, D.T., Martel, P.M., Knlaw, W.B., *et al.* The synthetic triterpenoid CDDO-Im inhibits fatty acid synthase expression and has antiproliferative and proapoptotic effects in human liposarcoma cells. *Cancer Invest.* **26(2)**, 118-127 (2009).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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