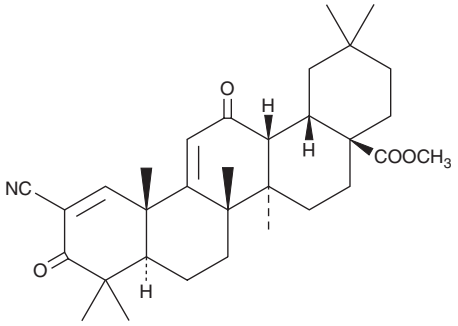
PRODUCT INFORMATION

CDDO methyl ester

Item No. 11883

CAS Registry No.:	218600-53-4
Formal Name:	2-cyano-3,12-dioxo-oleana-1,9(11)-dien-28-oic acid, methyl ester
Synonyms:	Bardoxolone methyl, CDDO ME, NSC 713200, RTA 402, TP-155
MF:	$C_{32}H_{43}NO_4$
FW:	505.7
Purity:	≥98%
UV/Vis.:	λ_{max}: 240 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 methyl ester is supplied as a crystalline solid. A stock solution may be made by dissolving the CDDO methyl ester in the solvent of choice, which should be purged with an inert gas. CDDO methyl ester is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of CDDO methyl ester in ethanol is approximately 10 mg/ml and approximately 5 mg/ml in DMSO and DMF.

CDDO methyl ester is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, CDDO methyl ester should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. CDDO methyl ester has a solubility of approximately 0.3 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

CDDO methyl ester is an EGFR degrader.[1] It binds to EGFR (K_d = 5.64 µM) and induces EGFR ubiquitination and degradation in BT-549 breast cancer cells but not in the presence of shRNA targeting the mRNA encoding Kelch-like ECH-associated protein 1 (Keap1). CDDO methyl ester (1 µM) increases the number of autophagosomes in BT-549 cells. It inhibits Ifn-γ-induced increases in levels of nitric oxide (NO) in isolated mouse macrophages (IC_{50} = 0.11 nM).[2] CDDO methyl ester (1 µM) inhibits TNF-α-induced NF-κB nuclear translocation in KBM5 cells.[3] It disrupts the mitochondrial membrane potential in U937 lymphoma monocytes when used at a concentration of 1 µM.[4] CDDO methyl ester decreases the viability of SGC-7901, NCI N87, BGC-823, and GES-1 gastric cancer cells (IC_{50}s = 0.6, 0.8, 0.5, and 0.5 µM, respectively).[4] It reduces plasma levels of triglycerides, free fatty acids, insulin, blood levels of glucose, liver and muscle levels of total lipids, and muscle levels of triglycerides in mice fed a Western diet when administered at a dose of 3 mg/kg per day.[5] CDDO methyl ester (2 mg/kg every other day), alone or in combination with gefitinib (Item No. 13166), decreases tumor volume and weight and the percentage of $EGFR^+$ tumor cells in an HCC1806 breast cancer mouse xenograft model.[6]

References

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3. Shishodia, S., Sethi, G., Konopleva, M., *et al. Clin. Cancer Res.* **12(6),** 1828-1838 (2006).
4. Konopleva, M., Tsao, T., Ruvolo, P., *et al. Blood* **99(1),** 326-335 (2002).
5. Saha, P.K., Reddy, V.T., Konopleva, M., *et al. J. Biol. Chem.* **285(52),** 40581-40592 (2010).
6. Li, N., Wang, J., Zhang, L., *et al. J. Med. Chem.* **67(16),** (2024).

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