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Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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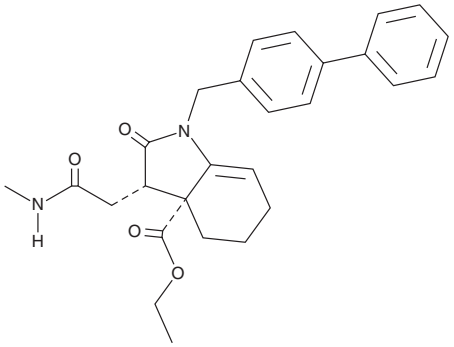
PRODUCT INFORMATION

Fumarate hydratase-IN-1

Item No. 39275

CAS Registry No.:	1644060-37-6
Formal Name:	(3R,3aS)-*rel*-1-([1,1′-biphenyl]-4-ylmethyl)-1,2,3,4,5,6-hexahydro-3-[2-(methylamino)-2-oxoethyl]-2-oxo-3aH-indole-3a-carboxylic acid, ethyl ester
Synonym:	Fumarate hydratase Inhibitor 1
MF:	$C_{27}H_{30}N_2O_4$
FW:	446.5
Purity:	≥98%
Supplied as:	A 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

Fumarate hydratase-IN-1 is supplied as a solid. A stock solution may be made by dissolving the fumarate hydratase-IN-1 in the solvent of choice, which should be purged with an inert gas. Fumarate hydratase-IN-1 is sparingly soluble (1-10 mg/ml) in DMSO and slightly soluble (0.1-1 mg/ml) in acetonitrile.

Description

Fumarate hydratase-IN-1 is an antiproliferative and anti-inflammatory compound.[1] It inhibits proliferation of, and induces ATP depletion in, SW620 colorectal, ACHN kidney, HCT116 colorectal, PC3 prostate, and SK-MEL-28 melanoma cancer cells in the absence, but not in the presence, of glucose in a concentration-dependent manner. Fumarate hydratase-IN-1 reduces the oxygen consumption rate (OCR) in SW620 cells in the absence of glucose (IC_{50} = 2.2 µM). Preincubation with fumarate hydratase-IN-1 (25 µM) reduces secretion of Ifn-γ, Tnf-α, and granzyme B from mouse $CD8^+$ T cells when co-cultured with B16-OVA melanoma cells expressing ovalbumin.[2] *In vivo*, fumarate hydratase-IN-1 (25 mg/kg per day) increases tumor interstitial fluid levels of fumarate and the percentage of apoptotic tumor-associated $CD8^+$ T cells, as well as reduces the levels of tumor-associated $CD44^+$ $CD8^+$ T cells and survival, in a B16-OVA murine melanoma model.

References

1. Takeuchi, T., Schumacker, P.T., and Kozmin, S.A. Identification of fumarate hydratase inhibitors with nutrient-dependent cytotoxicity. *J. Am. Chem. Soc.* **137(2)**, 564-567 (2015).
2. Cheng, J., Yan, J., Liu, Y., *et al.* Cancer-cell-derived fumarate suppresses the anti-tumor capacity of $CD8^+$ T cells in the tumor microenvironment. *Cell Metab.* **35(6)**, 961-978 (2023).

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