

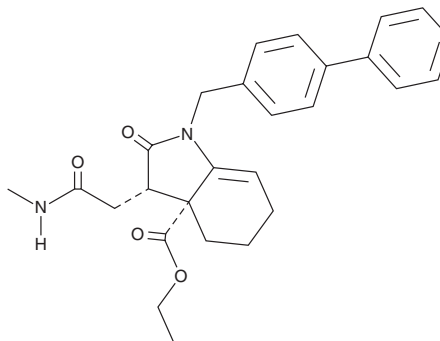
PRODUCT INFORMATION



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: C₂₇H₃₀N₂O₄
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 (IC₅₀ = 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).

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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