# Fumarate hydratase-IN-1

**Cat. No.:** HY-100004

**CAS No.:** 1644060-37-6

**Molecular Formula:** $C_{27}H_{30}N_2O_4$

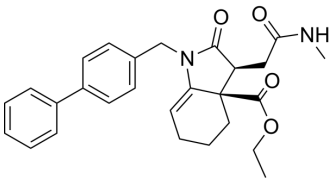
**Molecular Weight:** 446.54

**Target:** Mitochondrial Metabolism

**Pathway:** Metabolic Enzyme/Protease

**Storage:**

| | | |
|---|---|---|
| Powder | -20°C | 3 years |
| | 4°C | 2 years |
| In solvent | -80°C | 6 months |
| | -20°C | 1 month |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 50 mg/mL (111.97 mM; Need ultrasonic)

$H_2O$ : < 0.1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble)

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 2.2394 mL | 11.1972 mL | 22.3944 mL |
| 5 mM | 0.4479 mL | 2.2394 mL | 4.4789 mL |
| 10 mM | 0.2239 mL | 1.1197 mL | 2.2394 mL |

Please refer to the solubility information to select the appropriate solvent.

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.60 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.60 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.60 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

Fumarate hydratase-IN-1 (compound 2) is a cell-permeable fumarate hydratase inhibitor. Fumarate hydratase-IN-1 has antiproliferative activity against several cancer cell lines with a mean $IC_{50}$ of 2.2 μM[1].

**$IC_{50}$ & Target**

Fumarate hydratase[1]

**In Vitro**

Fumarate hydratase-IN-1 inhibits SW620, ACHN, HCT-116, PC3, and SK-MEL-28 cell lines with a mean $IC_{50}$ of 2.2 μM[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- Nat Chem Biol. 2022 Jun 16.
- Small. 2023 Jan 12;e2207194.
- Pharmacol Res. 2023 Feb 14;106697.

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## REFERENCES

[1]. Takeuchi T et al. Identification of Fumarate Hydratase Inhibitors with Nutrient-Dependent Cytotoxicity. J Am Chem Soc, 2015 Jan 21, 137(2): 564-567.



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