1,4-DPCA

Prolyl 4-hydroxylase (P4H) and hypoxia-inducible factor (FIH) inhibitor

1,4-DPCA is a potent inhibitor of prolyl 4-hydroxylase (P4H), with IC50 values of 3.6 μM in embryonic chick tendon cells and 2.4 μM in human foreskin fibroblasts. It also inhibits the factor inhibiting hypoxia-inducible factor (FIH) with an IC50 of 60 μM.

Key features and applications include:

- **High Selectivity:** Specifically inhibits prolyl 4-hydroxylase and FIH.
- **Potency:** Demonstrates strong inhibitory effects with IC50 values of 2-4 μM and 60 μM for P4H and FIH, respectively.
- **Stabilize HIF-1α Protein:** Inhibits prolyl-4-hydroxylases α isoforms, leading to increased HIF-1α stability.
- **Suppress Connective Tissue Ingrowth:** Effective in models of connective tissue ingrowth and collagen deposition.

Relevant disease states include:

- **Fibrosis:** Reduces collagen deposition, making it useful in studying fibrotic diseases.
- **Cancer:** Inhibits proliferation and invasive behavior of certain cancer cell lines.
- **Hypoxia-Related Conditions:** Stabilizes HIF-1α, which is relevant in conditions involving hypoxia.

Ordering Information

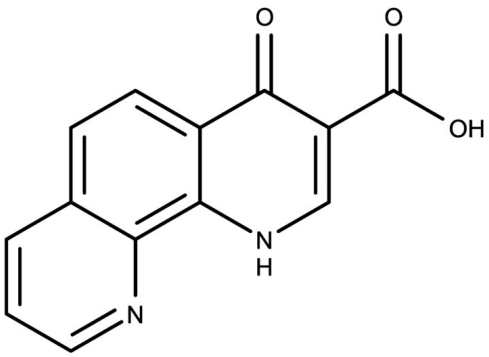
Order Online »

ENZ-CHM357-0025	25mg

Manuals, SDS & CofA

View Online »

- GMP format available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Handling & Storage

Use/Stability	As indicated on product label or CoA when stored as recommended. Solutions in DMSO may be stored at -20° for up to 2 months.
Handling	Keep container tightly closed in a dry and well-ventilated place.
Short Term Storage	Ambient
Long Term Storage	Ambient
Shipping	Ambient Temperature

Regulatory Status

RUO - Research Use Only

Product Details

Alternative Name	1,4-Dihydrophenonthrolin-4-one-3-carboxylic acid
Appearance	Off-white solid.
CAS	331830-20-7
Couple Target	FIH, Prolyl-4-hydroxylase
Couple Type	Inhibitor
Formula	$C_{13}H_8N_2O_3$
Identity	Determined by NMR.
MW	240.22
Purity	≥98% (HPLC)
Solubility	Soluble in DMSO (up to 15 mg/ml with warming).

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