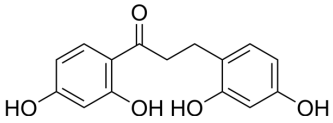
Tyrosinase-IN-11

Cat. No.:	HY-149207
CAS No.:	240797-64-2
Molecular Formula:	$C_{15}H_{14}O_5$
Molecular Weight:	274.27
Target:	Tyrosinase
Pathway:	Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Tyrosinase-IN-11 is a potent tyrosinase inhibitor with IC_{50}s of 50 nM and 64 nM for L-tyrosinase and L-dopa, respectively. Tyrosinase-IN-11 has significant antioxidant activity and low cytotoxicity. Tyrosinase-IN-11 has the potential for skin hyperpigmentation research[1].

In Vitro

Tyrosinase-IN-11 (compound 11c; 0.1-2 μM; 72 ⊠⊠) decreases the protein levels of both TYR and MiTF in a dose-dependent manner[1].

Tyrosinase-IN-11 (50 μM) is slightly cytotoxic in the human malignant melanoma cells A375 and B16F10 cells[1].

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

Western Blot Analysis[1]

Cell Line:	B16F10 cells
Concentration:	0.1, 0.5, 1, 2 μM
Incubation Time:	72 hours
Result:	Decreased the protein levels of both TYR and MiTF in a dose-dependent manner.

In Vivo

Tyrosinase-IN-11 (compound 11c; 0.5, 1 mM; topical administration before UV radiation every day for 2 weeks or after exposure to UV lamp for 5 days/week for two consecutive weeks) exhibits powerful antimelanogenesis ability in a guinea pig model in vivo[1].

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

Animal Model:	Female guinea pigs (10 weeks old, 350-500 g) received ultraviolet exposure from a UV lamp [1]
Dosage:	0.5, 1 mM
Administration:	Topical administration before UV radiation every day for 2 weeks or after exposure to UV lamp for 5 days/week for two consecutive weeks
Result:	Inhibited the production of melanin in a dose-dependent manner.

REFERENCES

[1]. Songtao Xue, et al. Design, Synthesis, and Biological Evaluation of Novel Hybrids Containing Dihydrochalcone as Tyrosinase Inhibitors to Treat Skin Hyperpigmentation. J Med Chem. 2023 Apr 13;66(7):5099-5117.

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