# HIOC

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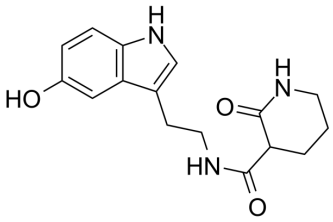
| **Cat. No.:** | HY-101446 |
| **CAS No.:** | 314054-36-9 |
| **Molecular Formula:** | $C_{16}H_{19}N_3O_3$ |
| **Molecular Weight:** | 301.34 |
| **Target:** | Trk Receptor; ERK; Apoptosis |
| **Pathway:** | Neuronal Signaling; Protein Tyrosine Kinase/RTK; MAPK/ERK Pathway; Stem Cell/Wnt; Apoptosis |
| **Storage:** | Please store the product under the recommended conditions in the Certificate of Analysis. |




## BIOLOGICAL ACTIVITY

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| **Description** | HIOC is a potent and selective activator of TrkB (tropomyosin related kinase B) receptor. HIOC can pass the blood-brain and blood-retinal barriers.HIOC activates TrkB/ERK pathway and decreases neuronal cell apoptosis. HIOC attenuates early brain injury after SAH (subarachnoid hemorrhage). HIOC shows protective activity in an animal model for light-induced retinal degeneration[1][2][3]. | |
| **$IC_{50}$ & Target** | TrkB | ERK |
| **In Vivo** | HIOC (C57BL/6 mice, 50 mg/kg, IP, three times per week, for two weeks) increased survival of RGCs (retinal ganglion cells) after ONC (optic nerve crush)[3].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. | |

## REFERENCES

[1]. Tang J, et al. Neuroprotective role of an N-acetyl serotonin derivative via activation of tropomyosin-related kinase receptor B after subarachnoid hemorrhage in a rat model. Neurobiol Dis. 2015 Jun;78:126-33.

[2]. Noah A.Setterholm, et al.Gram-scale, chemoselective synthesis of N-[2-(5-hydroxy-1H-indol-3-yl)ethyl]-2-oxopiperidine-3-carboxamide (HIOC). Tetrahedron Letters. 3 June 2015;56(23):3413-3415.

[3]. Ying Li, et al. Effect of systemic treatment with N-[2-(5-hydroxy-1H-indol-3-yl)ethyl]-2-oxopiperidine-3- carboxamide (HIOC) or tauroursodeoxycholic Acid (TUDCA) on retinal ganglion cell death following optic nerve crush. bioRxiv. 2019 August 14.



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