# Antalarmin

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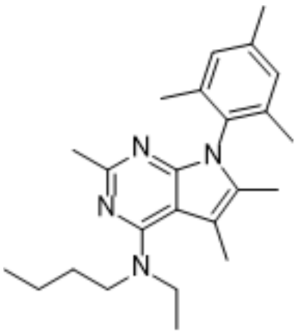
| **Cat. No.:** | HY-124475 |
| **CAS No.:** | 157284-96-3 |
| **Molecular Formula:** | $C_{24}H_{34}N_4$ |
| **Molecular Weight:** | 378.55 |
| **Target:** | CRFR |
| **Pathway:** | GPCR/G Protein |
| **Storage:** | Powder -20°C 3 years<br>In solvent -80°C 6 months<br>-20°C 1 month |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 25 mg/mL (66.04 mM; ultrasonic and warming and heat to 60°C)

| Preparing Stock Solutions | Mass / Solvent / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 2.6417 mL | 13.2083 mL | 26.4166 mL |
| | 5 mM | 0.5283 mL | 2.6417 mL | 5.2833 mL |
| | 10 mM | 0.2642 mL | 1.3208 mL | 2.6417 mL |

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

## BIOLOGICAL ACTIVITY

**Description**

Antalarmin is a selective nonpeptide corticotropin-releasing factor receptor 1 (CRHR1) antagonist with a $K_i$ of 2.7 nM. Antalarmin can pass through the blood–brain barrier[1][2][3].

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

Ki: 2.7 nM (CRHR1)[3]

**In Vitro**

Antalarmin inhibits the effect of corticotrophin-releasing factor (CRF) on $A\beta_{1-42}$ levels through the cAMP/PKA signaling pathway[2].

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

Western Blot Analysis[2]

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| Cell Line: | Primary hippocampal neurons derived from Tg2576 mice |
| Concentration: | 100 nM |
| Incubation Time: | 48 h |

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| Result: | Blocked CRF-induced increases in PKAIIβ levels. |

**In Vivo**

Antalarmin (10 mg/kg; i.p.; daily for 4 weeks) leads to an improvement of chronic mild stress (CMS)-induced modifications in mice[1].

Antalarmin (20 mg/kg; i.p.; daily for 7 days) significantly reduces $A\beta_{1-42}$ levels in sub-acute stressed Tg2576 mice[2].

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

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| Animal Model: | BALB/cByJIco male mice, chronic mild stress model[1] |
| Dosage: | 10 mg/kg |
| Administration: | Intraperitoneal injection, daily for 4 weeks |
| Result: | Induced a significant improvement of mice physical state. Induced a nonsignificant decrease of the lit box (TLB) and activity when compared to controls. |

## REFERENCES


[1]. Ducottet C, et al. Effects of the selective nonpeptide corticotropin-releasing factor receptor 1 antagonist antalarmin in the chronic mild stress model of depression in mice. Prog Neuropsychopharmacol Biol Psychiatry. 2003 Jun;27(4):625-31.

[2]. Dong H, et al. Effects of corticotrophin-releasing factor receptor 1 antagonists on amyloid-β and behavior in Tg2576 mice. Psychopharmacology (Berl). 2014 Dec;231(24):4711-22.

[3]. Zorrilla EP, et al. Urocortin shares the memory modulating effects of corticotropin-releasing factor (CRF): mediation by CRF1 receptors. Brain Res. 2002 Oct 18;952(2):200-10.





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