# ZSET-845

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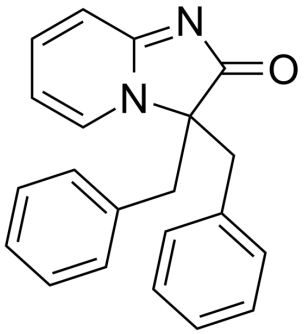
| **Cat. No.:** | HY-U00114 |
| **CAS No.:** | 324077-62-5 |
| **Molecular Formula:** | $C_{21}H_{18}N_2O$ |
| **Molecular Weight:** | 314.38 |
| **Target:** | Acyltransferase |
| **Pathway:** | Metabolic Enzyme/Protease |
| **Storage:** | Please store the product under the recommended conditions in the Certificate of Analysis. |




## BIOLOGICAL ACTIVITY

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| **Description** | ZSET-845 is a cognitive enhancer which enhances choline acetyltransferase activity in the hippocampus in the rat. |
| **$IC_{50}$ & Target** | Choline acetyltransferase[1] |
| **In Vitro** | ZSET-845 has no inhibitory action on AChE activity and enhances choline acetyltransferase (ChAT) activity in NB-1 cells[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |
| **In Vivo** | Treatment with ZSET-845 at the dose of 0.01, 0.1 and 1 mg/kg significantly ameliorates impaired performance caused by scopolamine. Oral administration of ZSET-845 causes an increase in ChAT activity in the hippocampus. In the hippocampus, ZSET-845 (0.01, 0.1 or 1 mg/kg) significantly increases ChAT activity (112%, 113.8% or 108.7%, respectively) compared with matched vehicle-injected control rats[1]. Oral administration of ZSET845 at a dose of 1 or 10 mg/kg ameliorates learning impairment in passive avoidance task and enhanced ChAT activity in the basal forebrain, medial septum and hippocampus, and increases in the number of ChAT-immunoreactive cells in the medial septum in Ab-treated rats to the levels of vehicle-injected control rats[2].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## PROTOCOL

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| **Animal Administration [1]** | Rats: The passive avoidance apparatus consists of a small illuminated chamber and a larger dark chamber. The two chambers are separated by a guillotine door. On the first and second days of testing, each rat is placed in the apparatus and left for 3 min to habituate to the apparatus. On the third day, an acquisition trial is performed. Oral administration of ZSET-845 (0.001, 0.01, 0.1 or 1 mg/kg), donepezil or tacrine (0.01, 0.1, 1 or 10 mg/kg) is given 60 min before the acquisition trial. Scopolamine (2 mg/kg) is intraperitoneally (i.p.) injected 20 min before the acquisition trial. Matched control rats received vehicle only[1].<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |

## REFERENCES

[1]. Yamaguchi Y, et al. Ameliorative effects of azaindolizinone derivative ZSET845 on scopolamine-induced deficits in passive avoidance and radial-arm maze learning in the rat. Jpn J Pharmacol. 2001 Nov;87(3):240-4.

[2]. Yamaguchi Y, et al. Antiamnesic effects of azaindolizinone derivative ZSET845 on impaired learning and decreased ChAT activity induced by amyloid-beta 25-35 in the rat. Brain Res. 2002 Aug 2;945(2):259-65.



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