**ZSET-845**

Cat. No.: HY-U00114  
CAS No.: 324077-62-5  
Molecular Formula: C₂₁H₁₈N₂O  
Molecular Weight: 314.38  
Target: Acetyltransferase  
Pathway: Metabolic Enzyme/Protease  
Storage: Please store the product under the recommended conditions in the COA.

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**BIOLOGICAL ACTIVITY**

**Description**  
ZSET-845 is a cognitive enhancer which enhances choline acetyltransferase activity in the hippocampus in the rat.

**IC₅₀ & Target**  
Choline acetyltransferase

**In Vitro**  
ZSET-845 has no inhibitory action on AChE activity and enhances choline acetyltransferase (ChAT) activity in NB-1 cells

**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. Oral administration of ZSET-845 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.

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**PROTOCOL**

**Animal Administration**

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.

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

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**REFERENCES**