



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

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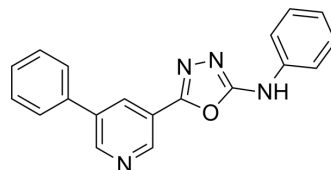
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## AChE/BuChE-IN-5

|                           |   |
|---------------------------|---|
| <b>Cat. No.:</b>          | HY-163537   |
| <b>Molecular Formula:</b> | C <sub>19</sub> H <sub>14</sub> N <sub>4</sub> O  |
| <b>Molecular Weight:</b>  | 314.34  |
| <b>Target:</b>            | Cholinesterase (ChE)  |
| <b>Pathway:</b>           | Neuronal Signaling  |
| <b>Storage:</b>           | Please store the product under the recommended conditions in the Certificate of Analysis. |



### BIOLOGICAL ACTIVITY

|                                     |  |   |
|-------------------------------------|--|---|
| <b>Description</b>                  | AChE/BuChE-IN-5 (compound 5a) is a dual target inhibitor. AChE/BuChE-IN-5 has excellent nanomolar inhibitory activity on acetylcholinesterase (AChE) (IC <sub>50</sub> =46.9 nM) and butyryl cholinesterase (BuChE) (IC <sub>50</sub> =3.5 nM). AChE/BuChE-IN-5 can be used for Alzheimer's Disease research <sup>[1]</sup> .  |   |
| <b>IC<sub>50</sub> &amp; Target</b> | AChE<br>46.9 nM (IC <sub>50</sub> )  | RatBuChE<br>3.5 nM (IC <sub>50</sub> )  |
| <b>In Vitro</b>                     | AChE/BuChE-IN-5 inhibits acetylcholinesterase (AChE) (IC <sub>50</sub> =46.9 nM) and butyryl cholinesterase (BuChE) (IC <sub>50</sub> =46.9 nM) and shows better inhibitory effects than the known dual inhibitor Rivastigmine (HY-17368) in vivo animal model of AD disease <sup>[1]</sup> . AChE/BuChE-IN-5 has a higher BuChE selectivity than AChE, and the selectivity index (SI) is 0.07, indicating that it has a stronger inhibitory effect on BuChE <sup>[1]</sup> .<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only. |   |
| <b>In Vivo</b>                      | AChE/BuChE-IN-5 (1 mg/kg, ip.; 14 days) has neuroprotective, antioxidant and anti-apoptotic effects in AD animal models <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.   |   |
|                                     | Animal Model:  | Male Wistar rats <sup>[1]</sup>   |
|                                     | Dosage:  | 1 mg/kg   |
|                                     | Administration:  | Intraperitoneal injection (i.p.)  |
|                                     | Result:  | Reduced MDA levels, elevated GSH levels, β-amyloid protein levels and 8-OHdG levels on an animal model of rats pre-treated with lead acetate.<br>Reduced the expression level of caspase-3 and VEGF compared with the PbAc group. |

### REFERENCES

[1]. Zaafar D, et al. Unleashing new MTDL AChE and BuChE inhibitors as potential anti-AD therapeutic agents: In vitro, in vivo and in silico studies[J]. International Journal of Biological Macromolecules, 2024: 131740.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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