



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
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### SZABO-SCANDIC HandelsgmbH

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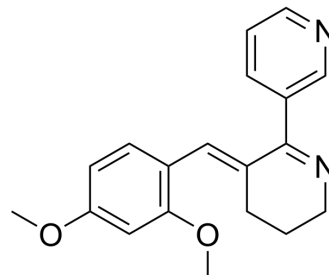
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## GTS-21

|                           |   |
|---------------------------|---|
| <b>Cat. No.:</b>          | HY-14564  |
| <b>CAS No.:</b>           | 148372-04-7   |
| <b>Molecular Formula:</b> | C <sub>19</sub> H <sub>20</sub> N <sub>2</sub> O <sub>2</sub>                             |
| <b>Molecular Weight:</b>  | 308.37  |
| <b>Target:</b>            | nAChR; 5-HT Receptor  |
| <b>Pathway:</b>           | Membrane Transporter/Ion Channel; Neuronal Signaling; GPCR/G Protein                      |
| <b>Storage:</b>           | Please store the product under the recommended conditions in the Certificate of Analysis. |



### BIOLOGICAL ACTIVITY

|                                     |   |                         |  |
|-------------------------------------|---|-------------------------|--|
| <b>Description</b>                  | GTS-21 dihydrochloride is a selective $\alpha 7$ nicotinic acetylcholine receptor ( $\alpha 7$ -nAChR) agonist with anti-inflammatory and cognition-enhancing activities. GTS-21 dihydrochloride is also a $\alpha 4\beta 2$ ( $K_i=20$ nM for human $\alpha 4\beta 2$ ) and 5-HT <sub>3A</sub> receptor ( $IC_{50}=3.1$ $\mu$ M) antagonist. GTS-21 can be used in age-associated memory impairment (AAMI) and Alzheimer's disease research [1][2][3]. |                         |  |
| <b>IC<sub>50</sub> &amp; Target</b> | $\alpha 7$ -nAChR   | human $\alpha 4\beta 2$ | 5-HT <sub>3A</sub> Receptor<br>3.1 $\mu$ M ( $IC_{50}$ ) |
| <b>In Vitro</b>                     | GTS-21 bound to human $\alpha 4\beta 2$ nAChR ( $K_i=20$ nM) 100-fold more potently than to human $\alpha 7$ -nAChR, and is 18- and 2-fold less potent than (-)-nicotine at human $\alpha 4\beta 2$ and $\alpha 7$ nAChR, respectively <sup>[1]</sup> .<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only.  |                         |  |
| <b>In Vivo</b>                      | GTS 21 (4 mg/kg; i.p.; 1, 3, 7, 14 and 21 days) reduces radiation induced histological signs of pulmonary injury <sup>[3]</sup> .<br>MCE has not independently confirmed the accuracy of these methods. They are for reference only.  |                         |  |

### CUSTOMER VALIDATION

- Biomed Pharmacother. May 2022, 112733.
- Cell Death Discov. 2022 Feb 8;8(1):54.
- Cell Death Discov. 2021 Mar 29;7(1):63.
- Diabetes Obes Metab. 2022 Jul;24(7):1255-1266.
- Int Immunopharmacol. 2024 Mar 10;129:111603.

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### REFERENCES

[1]. Briggs CA, et al. Functional characterization of the novel neuronal nicotinic acetylcholine receptor ligand GTS-21 in vitro and in vivo. Pharmacol Biochem Behav. 1997;57(1-2):231-241.

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[2]. Zhang R, et al. N-terminal domains in mouse and human 5-hydroxytryptamine3A receptors confer partial agonist and antagonist properties to benzylidene analogs of anabaseine. *J Pharmacol Exp Ther.* 2006;317(3):1276-1284.

[3]. Mei Z, et al.  $\alpha 7$  nAChR agonist GTS 21 reduces radiation induced lung injury. *Oncol Rep.* 2018;40(4):2287-2297.

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

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