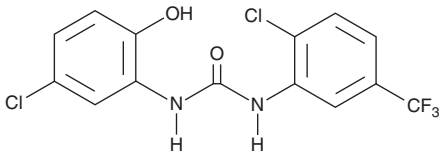
# PRODUCT INFORMATION

## NS 1738

*Item No. 21018*

**CAS Registry No.:** 501684-93-1
**Formal Name:** N-(5-chloro-2-hydroxyphenyl)-N'-[2-chloro-5-(trifluoromethyl)phenyl]-urea
**Synonym:** NSC 213859
**MF:** $C_{14}H_9Cl_2F_3N_2O_2$
**FW:** 365.1
**Purity:** ≥98%
**UV/Vis.:** $\lambda_{max}$: 209, 263, 296 nm
**Supplied as:** A crystalline solid
**Storage:** -20°C
**Stability:** ≥4 years




*Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.*

### Laboratory Procedures

NS 1738 is supplied as a crystalline solid. A stock solution may be made by dissolving the NS 1738 in the solvent of choice, which should be purged with an inert gas. NS 1738 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of NS 1738 in ethanol is approximately 10 mg/ml and approximately 25 mg/ml in DMSO and DMF.

NS 1738 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, NS 1738 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. NS 1738 has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

NS 1738 is a positive allosteric modulator of the α7-containing neuronal nicotinic acetylcholine receptors (nAChRs).[1] When applied in the presence of ACh, NS 1738 increases the peak amplitude of the current flowing through α7-containing nAChRs ($EC_{50}$ = 3.4 µM).[1] NS 1738 displays no substantial activity for α4β2-, α3β3-, and α1-containing receptors. It is modestly brain-penetrant and counteracts (-)-scopolamine-induced deficit in acquisition of a water-maze learning task in rats.[1] NS 1738 also improves performance in the rat social recognition test.[1] NS 1738 is used to selectively evaluate the role of α7-containing nAChRs in signaling pathways.[2,3]

### References


1. Timmermann, D.B., Gronlien, J.H., Kohlhaas, K.L., *et al*. An allosteric modulator of the α7 nicotinic acetylcholine receptor possessing cognition-enhancing properties *in vivo*. JPET **323(1)**, 294-307 (2007).
2. Cheng, Q. and Yakel, J.L. Presynaptic α7 nicotinic acetylcholine receptors enhance hippocampal mossy fiber glutamatergic transmission *via* PKA activation. *J. Neurosci.* **34(1)**, 124-133 (2014).
3. Freitas, K., Carroll, F.I., and Damaj, M.I. The antinociceptive effects of nicotinic receptors α7-positive allosteric modulators in murine acute and tonic pain models. *J. Pharmacol. Exp. Ther.* **344(1)**, 264-275 (2013).





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