

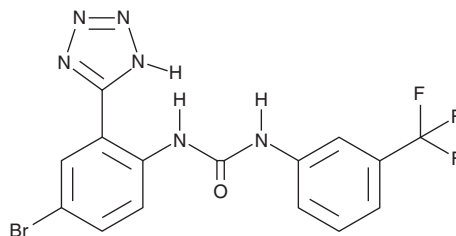
PRODUCT INFORMATION



NS 3623

Item No. 34992

CAS Registry No.: 343630-41-1
Formal Name: N-[4-bromo-2-(2H-tetrazol-5-yl)phenyl]-N'-[3-(trifluoromethyl)phenyl]-urea
MF: C₁₅H₁₀BrF₃N₆O
FW: 427.2
Purity: ≥95%
UV/Vis.: λ_{max}: 227, 245, 271, 381 nm
Supplied as: A 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 3623 is supplied as a solid. A stock solution may be made by dissolving the NS 3623 in the solvent of choice, which should be purged with an inert gas. NS 3623 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of NS 3623 in these solvents is approximately 2, 1, and 5 mg/ml, respectively.

Description

NS 3623 is an ion channel modulator.¹⁻³ It inhibits the volume-regulated anion channel (VRAC) in HEK293 cells and chloride conductance in isolated human red blood cells (IC₅₀s = 1.8 and 0.21 μM, respectively).^{1,2} NS 3623 also activates human-ether-a-go-go (hERG), also known as K_v11.1 (EC₅₀ = 79.4 μM), but does not activate the voltage-gated potassium channel (K_v) subtypes K_v1.5, K_v4.3, or K_v7.1 at 30 μM.³ It increases red blood cell density and improves red blood cell morphology in the SAD transgenic mouse model of sickle cell disease when administered at a dose of 100 mg/kg per day for 21 days.² NS 3623 (50 mg/kg) reverses QT interval prolongation induced by the hERG inhibitor E-4031 (Item No. 15203) in conscious guinea pigs.⁴

References

1. Hélix, D., Strøbaek, B.H.D., and Christophersen, P. Inhibition of the endogenous volume-regulated anion channel (VRAC) in HEK293 cells by acidic di-aryl-ureas. *J. Membr. Biol.* **196**(2), 83-94 (2003).
2. Bennekou, P., de Franceschi, L., Pedersen, O., et al. Treatment with NS3623, a novel Cl⁻ conductance blocker, ameliorates erythrocyte dehydration in transgenic SAD mice: a possible new therapeutic approach for sickle cell disease. *Blood* **97**(5), 1451-1457 (2001).
3. Hansen, R.S., Diness, T.G., Christ, T., et al. Biophysical characterization of the new human ether-a-go-go-related gene channel opener NS3623 [N-(4-bromo-2-(1H-tetrazol-5-yl)-phenyl)-N'-(3'-trifluoromethylphenyl)urea]. *Mol. Pharmacol.* **70**(4), 1319-1329 (2006).
4. Hansen, R.S., Olesen, S.-P., Rønn, L.C.B., et al. In vivo effects of the I^{Kr} agonist NS3623 on cardiac electrophysiology of the guinea pig. *J. Cardiovasc. Pharmacol.* **52**(1), 35-41 (2008).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM