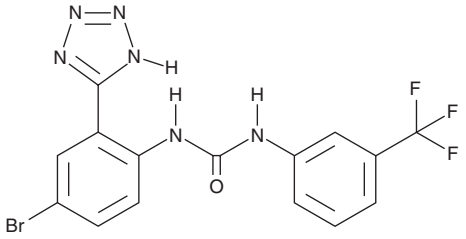
# PRODUCT INFORMATION

## 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:** | $C_{15}H_{10}BrF_3N_6O$ |
| **FW:** | 427.2 |
| **Purity:** | ≥95% |
| **UV/Vis.:** | $\lambda_{max}$: 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 ($IC_{50}$s = 1.8 and 0.21 µM, respectively).[1,2] NS 3623 also activates human-ether-a-go-go (hERG), also known as $K_v$11.1 ($EC_{50}$ = 79.4 µM), but does not activate the voltage-gated potassium channel ($K_v$) subtypes $K_v$1.5, $K_v$4.3, or $K_v$7.1 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).





**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