

Product Data Sheet

Product Name: NS1652
Cat. No.: GC31133

Chemical Properties

Cas. No. 1566-81-0

SMILES O=C(O)C1=CC=CC=C1NC(NC2=CC=CC(C(F)(F)F)=C2)=O

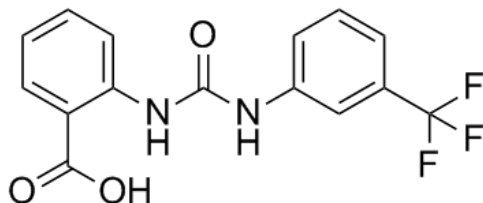
Formula $C_{15}H_{11}F_3N_2O_3$ M.Wt 324.25

Solubility DMSO: 5 mg/mL (15.42 mM) Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Protocol

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

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**Animal
experiment:**

NS1652 is suspended in a carrying vehicle, cremophore (pig-40 hydrogenated castor oil), at a concentration of 5 mg/mL. At time zero, an amount corresponding to 1% of animal weight (about 250 μ L of suspension) is injected into mice through the tail veins (NMRI strain, 5-6 weeks). At several time intervals after the injection, the mice are decapitated and the blood collected is collected and centrifuged for 60 seconds. The plasma is removed by aspiration and the packed cells are stored on ice until use. Immediately before measurement, the packed cells are resuspended in 1 volume of ice-cold experimental medium and centrifuged for 30 seconds. A total of 100 μ L of packed cells are then immediately transferred to 3 mL medium, and CCCP and valinomycin added. The blood samples are analyzed in random order with respect to the time of decapitation[2].

References:

- [1]. Kjaer K, et al. Chloride channel blockers inhibit iNOS expression and NO production in IFN γ -stimulated microglial BV2 cells. *Brain Res.* 2009 Jul 24;1281:15-24.
- [2]. Bennekou P, et al. Volume control in sickle cells is facilitated by the novel anion conductance inhibitor NS1652. *Blood.* 2000 Mar 1;95(5):1842-8.

Background

NS1652 is a reversible anion conductance inhibitor, blocks chloride channel, with an IC₅₀ of 1.6 μ M in human and mouse red blood cells.

NS1652 potently inhibits the chloride conductance (IC₅₀, 1.6 μ M) in human and mouse red blood cells, but only weakly inhibits VRAC (IC₅₀, 125 μ M) in HEK293 cells. NS1652 markedly blocks the NO production with an IC₅₀ of 3.1 μ M in BV2 cells. NS1652 also down-regulates iNOS expression at 3 μ M, and completely abolishes at 10 μ M in BV2 cells[1]. NS1652 (0, 1.0, 3.3, 10, and 20 μ M) causes increasing hyperpolarization due to inhibition of the chloride conductance in normal erythrocytes. NS1652 lowers the net KCl loss from deoxygenated sickle cells from about 12 mM cells/h to about 4 mM cells/h. NS1652 (20 μ M) completely and reversibly inhibits the red cell Cl⁻ conductance[2].

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NS1652 (50 mg/kg, i.v.) blocks murine erythrocyte Cl⁻ conductance by >90% in mice[2].

[1]. Kjaer K, et al. Chloride channel blockers inhibit iNOS expression and NO production in IFN γ -stimulated microglial BV2 cells. Brain Res. 2009 Jul 24;1281:15-24. [2]. Bennekou P, et al. Volume control in sickle cells is facilitated by the novel anion conductance inhibitor NS1652. Blood. 2000 Mar 1;95(5):1842-8.

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