Chemical Properties

**Product Name:** NS 398  
**Cas No.:** 123653-11-2  
**M.Wt:** 314.36  
**Formula:** C13H18N2O5S

**Chemical Name:** N-(2-(cyclohexyloxy)-4-nitrophenyl)methanesulfonamide

**Canonical SMILES:** O=S(NC(C(OC1CCCCC1)=C2)=CC=C2[N+](\[O-]]=[O]')(C)=O

**Solubility:** ≥31.4mg/mL in DMSO

**Storage:** Store at RT

**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.

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

Biological Activity

**Targets:** Neuroscience

**Pathways:** COX

**Description:**

NS 398 is a selective inhibitor of cyclooxygenase-2 with IC50 value of 3.8 μM [1]. Cyclooxygenase (COX) is an enzyme that is responsible for the formation of prostaglandins, prostacyclin and thromboxane. COX-2 converts arachidonic acid (AA) to prostaglandin endoperoxide H2.

NS 398 is a selective COX-2 inhibitor and a novel anti-inflammatory agent. NS 398 inhibited COX-2 with IC50 value of 3.8 μM in a concentration-dependent way [1]. In RG/C2, AA/C1 and RR/C1 pre-malignant human colorectal adenoma cell lines, NS-398 (20 ~ 100 μM) inhibited cell
proliferation and induced apoptosis. In HT29 colorectal carcinoma cell lines, NS-398 induced apoptosis. Also, NS-398 increased COX-2 protein expression. In HT29 cultures, NS-398 inhibited prostaglandin E2 secretion and COX-2 activity [2].

In rats with trauma, NS-398 (0.3-5 mg/kg) exhibited anti-inflammatory and analgesic effects [1]. In Balb/C mice, NS-398 (10 mg/kg) reduced prostaglandin E2 (PGE2) production and also significantly decreased the production of NO, IL-6 and TNF-α. Also, NS-398 decreased the mRNA levels of COX-2 and inhibited NF-κB activation. These results suggested that NS-398 regulated the inflammatory response after trauma and improved survival [3].

Reference:

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.