Product Data Sheet

Chemical Properties

Product Name: Sorafenib
Cas No.: 284461-73-0
M.Wt: 464.82
Formula: C21H16ClF3N4O3
Synonyms: BAY-43-9006, Sorafenib, Nexavar, sorafenibum
Chemical Name: 4-[4-[[4-chloro-3-(trifluoromethyl)phenyl]carbamoylamino]phenoxy]-N-methylpyridine-2-carboxamide
Canonical SMILES: CNC(=O)C1=NC=CC(=C1)OC2=CC=C(C=C2)NC(=O)NC3=CC(=C(C=C3)C I)C(F)(F)F
Solubility: Soluble in DMSO > 10 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.
Shopping Condition: Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request

Biological Activity

Targets: PDGFR
Pathways: Tyrosine Kinase/Adaptors >> PDGFR
Description: Sorafenib is an oral multikinase inhibitor with activity against Raf kinase and several receptor tyrosine kinases, including vascular endothelial growth factor receptor 2 (VEGFR2), platelet-derived growth factor receptor (PDGFR), FLT3, Ret, and c-Kit. Sorafenib inhibits tumor growth and disrupts tumor microvasculature through antiproliferative, antiangiogenic, and/or proapoptotic effects. Sorafenib blocks Raf kinase signaling, inhibits tumor cell proliferation, and
induces apoptosis in vitro. In addition, sorafenib exhibits robust antitumor efficacy.

**Reference:**


**Protocol**

**Cell experiment:**

- **Cell lines**: PLC/PRF/5 and HepG2 cells
- **Preparation method**: The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
- **Reacting conditions**: IC50: 6.3 μM for PLC/PRF/5 cells 4.5 μM for HepG2 cells 72 hours
- **Applications**: The effect of sorafenib on cell proliferation was measured by CellTiter-Glo assay. Sorafenib inhibited cell proliferation dose-dependently with an IC50 of 6.3 μmol/L in PLC/PRF/5 and 4.5 μmol/L in HepG2 cells.

**Animal experiment [3]:**

- **Animal models**: Female CB17 SCID mice injected with PLC/PRF/5 cells
- **Dosage form**: Oral administration; 10, 30, and 100 mg/kg body weight; once daily for 16 or 21 days
- **Applications**: Sorafenib tosylate produced dose-dependent growth inhibition of s.c. implanted PLC/PRF/5 tumor xenografts in SCID mice. Dose levels of 10 and 30 mg/kg produced significant and dose-dependent TGIs of 49% and 78%, respectively. Sorafenib tosylate produced durable partial tumor regressions in 50% of the mice at the 100 mg/kg dose level.
- **Other notes**: Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.
Reference:

Product Validation

Sorafenib monotherapy on inhibition of LCSC, Huh7, and PLC cells (MTT assay).

Sorafenib treatment in the presence of TRAIL

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. Short-term 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.