Product Data Sheet

Chemical Properties

**Product Name:** Nafamostat Mesylate (FUT-175)

**Cas No.:** 82956-11-4

**M.Wt:** 539.59

**Formula:** C19H17N5O2.2CH4O3S

**Synonyms:** Nafamostat Mesylate, FUT-175, Futhan

**Chemical Name:** (6-carbamimidoylnaphthalen-2-yl) 4-(diaminomethylideneamino)benzoate; methanesulfonic acid

**Canonical SMILES:** CS(=O)(=O)O.CS(=O)(=O)O.C1=CC(=CC=C1C(=O)OC2=CC3=C(C=C2)C=C(C=C3)C(=N)N)N=C(N)N

**Solubility:** \( \geq 27\text{mg/mL} \) in DMSO, \( \geq 54\text{mg/mL} \) in H2O

**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:** Proteases

**Pathways:** Serine Protease

**Description:**
Nafamostat mesylate, previously known as FUT-175, is an inhibitor of serine protease that inhibits a variety of serine proteases, including trypsin and several proteases in the coagulation cascade. Although it was originally developed as an inhibitor of complements, Nafamostat
mesylate has been widely used for the treatment of inflammation (such as acute pancreatitis) and disseminated intravascular coagulation (DIC). Nafamostat mesylate exhibits extremely potent inhibition against human tryptase as well as tryptase-catalyzed hydrolysis of Boc-Phe-Ser-Arg-MCA with inhibition constant Ki value of 95.3 pM. Besides its protease-inhibiting activity, nafamostat mesylate, in a recent study, displayed its antimicrobial activity by dose-dependently inhibiting the proliferation of chlamydial in vitro.

Reference:

Protocol

Cell experiment:

Cell lines The human pancreatic tumor cell lines PANC-1
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 3 h; 160 μg/mL
Applications In assessment of the NF-κB activation by ELISA, concentration of NF-κB p65 in the nuclear extracts of PANC-1 cells in combination group was statistically lower than those in oxaliplatin group (p<0.0001). Like nuclear NF-κB levels, phosphorylated IκBa levels by Western blot analysis in combination group were significantly lower than those in oxaliplatin group (p=0.037). In other words, FUT-175 inhibits oxaliplatin-induced NF-κB activation by suppressing IκBa phosphorylation in vitro.

Animal experiment [3]:

Animal models Five-week-old male nude mice
Dosage form 30 μg/g; thrice a week for 6 weeks; intraperitoneal injection
Applications A pancreatic cancer model was established by injection of PANC-1 cells (5×10^6-6cells) in 200 μM of PBS subcutaneously into the right
side of the back of the animals. In vivo, the tumor growth in combination group (oxaliplatin and nafamostat mesilate) was significantly slower than that of oxaliplatin group (p<0.0001). Tumor volume in combination group was significantly smaller than that of oxaliplatin group (p=0.048).

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:

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.