Product Data Sheet

Chemical Properties

Product Name: Naproxen Sodium
Cas No.: 26159-34-2
M.Wt: 252.24
Formula: C14H13NaO3

Chemical Name: sodium (S)-2-(6-methoxynaphthalen-2-yl)propanoate
Canonical SMILES: C[C@][C((O)=O)][H]C1=CC2=CC=C(O)C=C2C=C1.[Na+]

Solubility: Soluble in DMSO
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: Neuroscience
Pathways: COX

Description:
Naproxen sodium is a nonselective cyclooxygenase inhibitor [1], with an ex vivo IC50 value of 35.48 μmol/L to cyclooxygenase-1 (COX-1) inhibition regarding naproxen plasma levels, and an ex vivo IC50 value of 64.62 μmol/L to cyclooxygenase-2 (COX-2) regarding naproxen plasma levels [2].
COX enzymes showed to be important for satellite cell fusion, proliferation and differentiation. COX-2 inhibition alone produced decreased satellite cell proliferation. Inhibition of both COX-1
and COX-2 decreased the fusion and differentiation of satellite cell [1].

Treatment with naproxen (0.5-1.5 mM) or licofelone (100-150 µM) was applied. After 48 h, the evaluation of HCA-7 cell viability was determined with trypan blue exclusion assay. Naproxen significantly decreased HCA-7 cell viability with an IC50 value of 1.45 ± 0.07 mM, and licofelone with an IC50 value of 72 ± 3.6 µM [3].

In four volunteers, 220 mg naproxen sodium b.i.d. was applied for 7 days. After a single dose and at steady state, maximal inhibition was as follows: 79% and 85% (COX-2), 94% and 93% (COX-1).

In 2 of 4 volunteers applied with a single-dose administration, a greater than 95% COX-1 inhibition was transiently found at the time of maximal plasma concentration. In 1 of 4 volunteers throughout the 12-hour dose interval, a greater than 95% COX-1 inhibition was transiently found at steady state [2].

Treatments with placebo (PL) for 3 months or naproxen sodium (Nxs) 550 mg twice each day by mouth was applied to forty women suffering from Menstrual Migraine (MM). In the next 3 months, in an open study, active drug was applied to all the women. Compared to PL, treatment with Nxs significantly reduced the number of days of headache, the headache duration and intensity, and the analgesic consumption [4].

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.