

Product Data Sheet

Product Name: Ibuprofen sodium

Cat. No.: GC66211

Chemical Properties

Cas. No. 31121-93-4

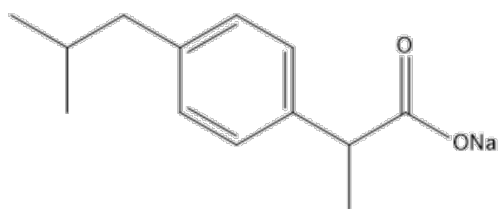
Formula $C_{13}H_{17}NaO_2$ M.Wt 228.26

Solubility H₂O : ≥ 100 mg/mL (438.10 mM) Storage 4°C, away from moisture

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



Background

Ibuprofen ((±)-Ibuprofen) sodium is an orally active, selective **COX-1** inhibitor with an **IC₅₀** value of 13 μM. Ibuprofen sodium inhibits cell proliferation, angiogenesis, and induces cell **apoptosis**. Ibuprofen sodium is a nonsteroidal anti-inflammatory agent and a nitric oxide (NO) donor. Ibuprofen sodium can be used in the research of pain, swelling, inflammation, infection, immunology, cancers^{[1][2][5][8]}.

Ibuprofen sodium (24 h) inhibits COX-1 and COX-2 activity with IC₅₀ values of 13 μM and 370 μM^[1]. Ibuprofen sodium (500 μM, 48 h) inhibits cell proliferation and angiogenesis, and induces apoptosis in

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AGS cells (Adenocarcinoma gastric cell line)^[2].

Ibuprofen sodium (500 μ M, 48 h) downregulates transcription of Akt, VEGF-A, PCNA, Bcl2, OCT3/4 and CD44 genes, but upregulates RNA levels of wild type P53 and Bax genes in AGS cell^[2].

Ibuprofen sodium (500 μ M, 24 h) restores microtubule reformation, microtubule-dependent intracellular cholesterol transport, and induces extension of microtubules to the cell periphery in both cystic fibrosis (CF) cell models and primary CF nasal epithelial cells^[3].

Ibuprofen sodium (500 μ M, 24 h) enhances UV-induced cell death in MCF-7 cells and MDA-MB-231 cells by a photosensitization process^[4].

Cell Viability Assay^[2]

Cell Line: AGS cells

Concentration: 100-1000 μ M

Incubation Time: 24 h, 48 h

Result: Inhibited AGS cell viability with IC₅₀ values of 630 μ M (trypan blue staining, 24 h), 456 μ M (neutral red assay, 24 h), 549 μ M (trypan blue staining, 48 h) and 408 μ M (neutral red assay, 48 h).

Ibuprofen sodium (fed in animal feedings, 300 mg/kg, 14 days) reduces overall tumor growth and enhances anti-tumor immune characteristics without adverse autoimmune reactions in a model of postpartum breast cancer^[5].

Ibuprofen sodium (subcutaneous injection, 60 mg/kg, every second day for 15 days) reduces the risk of neuropathy in a rat model of chronic Oxaliplatin-induced peripheral neuropathy^[6].

Ibuprofen sodium (oral administration, 20 mg/kg, every 12 hours, 5 doses total) decreases muscle growth (average muscle fiber cross-sectional area) without affecting regulation of supraspinatus tendon adaptations to exercise^[7].

Ibuprofen sodium (oral administration, 35 mg/kg, twice daily) attenuates the Inflammatory response to *pseudomonas aeruginosa* in a rat model of chronic pulmonary infection^[8].

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Animal Model: Syngeneic (D2A1) orthotopic Balb/c mouse model of PPBC (postpartum) [5]

Dosage: 300 mg/kg, daily for 14 days

Administration: Fed in animal feedings (added to pulverized standard chow and mixed dry, then mixed with water, made into chow pellets and dried thoroughly)

Result: Suppressed tumor growth, reduced presence of immature monocytes and increased numbers of T cells. Enhanced Th1 associated cytokines as well as promoted tumor border accumulation of T cells.

Animal Model: Oxaliplatin?induced peripheral neuropathy [6]

Dosage: 60 mg/kg, every second day for 15 days

Administration: Subcutaneous injection

Result: Lowered sensory nerve conduction velocity (SNCV).

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