(R)-Ibuprofen
Item No. 16794

CAS Registry No.: 51146-57-7
Formal Name: (R)-α-methyl-4-(2-methylpropyl)-(αR)-benzeneacetic acid
Synonym: (R)-Ibuprofen
MF: C13H18O2
FW: 206.3
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis: λmax 220 nm

Laboratory Procedures
For long term storage, we suggest that (R)-ibuprofen be stored as supplied at -20°C. It should be stable for at least two years.

(R)-Ibuprofen is supplied as a crystalline solid. A stock solution may be made by dissolving the (R)-ibuprofen in the solvent of choice. (R)-Ibuprofen is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of (R)-ibuprofen in these solvents is approximately 60, 50, and 45 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of (R)-Ibuprofen can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of (R)-ibuprofen in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Ibuprofen is a non-steroidal anti-inflammatory drug with diverse biochemical actions, most notably inhibiting COX-1 and COX-2 (IC50 = 2.6 and 1.53 µM, respectively).1 It is commonly synthesized as a racemic mixture of (S) and (R) isomers (Item No. 70280). (R)-Ibuprofen is an enantiomer that is generally not considered a COX inhibitor and is instead thought to be involved in pathways of lipid metabolism as it is incorporated into triglycerides along with fatty acids.2 The (R) enantiomer can, however, inhibit NF-κB activation (IC50 = 121.8 µM) in response to T-cell stimulation as well as block superoxide formation, β-glucuronidase release, and LTB 4 generation by stimulated neutrophils (IC50 values range from 40-100 µM).3,4 50-60% of (R)-ibuprofen is inverted to (S)-ibuprofen (Item No. 16793) in humans after oral administration.5,6,2

References

Related Products

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
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