PRODUCT INFORMATION

(±)-Ibuprofen
Item No. 70280

CAS Registry No.: 15687-27-1
Formal Name: (±)-α-methyl-4-(2-methylpropyl)-benzeneacetic acid
Synonyms: DL-Ibuprofen, NSC 256854, U-18753
MF: C_{13}H_{18}O_2
FW: 206.3
Purity: ≥99%
Supplied as: A crystalline solid
Storage: Room temperature
Stability: ≥2 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

(±)-Ibuprofen is supplied as a crystalline solid. A stock solution may be made by dissolving the (±)-ibuprofen in the solvent of choice. Ibuprofen is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of (±)-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 (±)-ibuprofen can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of (±)-ibuprofen in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

(±)-Ibuprofen is a non-selective, reversible COX inhibitor and non-steroidal anti-inflammatory drug (NSAID). The IC_{50} values for human recombinant COX-1 and COX-2 are 2.6 and 1.53 μM, respectively. The K_i value for ovine COX-1 and COX-2 is 9 μM. Formulations containing ibuprofen have been widely used in the treatment of inflammation, pain, and fever.

References