Montelukast (sodium salt)
Item No. 10008318

CAS Registry No.: 151767-02-1
Formal Name: 1-[[[(1R)-1-[3-(1E)-2-(7-chloro-2-
quinolinyl)ethenyl]phenyl]-3-[2-(1-
hydroxy-1-methylethyl)phenyl]propyl]
thio]-methyl]-cyclopropaneacetic acid,
monosodium salt

Synonym: MK-476
MF: C35H35ClNO3S • Na
FW: 608.2
Purity: ≥98%
UV/Vis.: \( \lambda_{\text{max}} \): 212, 284, 328, 345, 359 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years

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

Laboratory Procedures

Montelukast (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the montelukast (sodium salt) in the solvent of choice. Montelukast (sodium salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of montelukast (sodium salt) in these solvents is approximately 30 mg/ml. It is also soluble in water at a concentration of 10 mg/ml. Montelukast (sodium salt) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, montelukast (sodium salt) should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Montelukast (sodium salt) has a solubility of approximately 0.15 mg/ml in a 1:9 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

The cysteinyl leukotrienes (CysLTs), LTC\(_4\) and LTD\(_4\), are potent mediators of asthma and hypersensitivity. They induce bronchoconstriction, increase microvascular permeability, and are vasoconstrictors of coronary arteries. Their biological effects are transduced by a pair of G protein-coupled receptors, CysLT\(_1\) and CysLT\(_2\).\(^{1-3}\) Montelukast (sodium salt) is a potent, selective CysLT\(_1\) receptor antagonist sold under the trade name Singular for the treatment of asthma as well as for the symptoms associated with allergic rhinitis.\(^{4-7}\) It binds to the human CysLT\(_1\) receptor with an IC\(_{50}\) value of less than 5nM with no appreciable binding to the CysLT\(_2\) receptor.\(^{1-3}\)

References


WARNING
This product is for research only - not for human or veterinary diagnostic or therapeutic use.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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