Flupirtine (maleate)
Item No. 16674

CAS Registry No.: 75507-68-5
Formal Name: N-[2-amino-6-[[[4-fluorophenyl]methyl]amino]-3-pyridinyl]-carbamic acid, ethyl ester, 2Z-butenedioate

MF: C_{15}H_{17}FN_{4}O_{5} • C_{4}H_{4}O_{4}
FW: 420.4
Purity: ≥95%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis: \lambda_{\text{max}} = 204, 250, 348 nm

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

Flupirtine (maleate) is supplied as a crystalline solid. A stock solution may be made by dissolving the flupirtine (maleate) in the solvent of choice. Flupirtine (maleate) is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of flupirtine (maleate) in these solvents is approximately 20 and 30 mg/ml, respectively.

Flupirtine (maleate) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, flupirtine (maleate) should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Flupirtine (maleate) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Flupirtine is an agonist of Kv7 potassium (KCNQ) channels, which are expressed predominantly in the nervous system but may also be found on smooth muscle and other sites.1,2 It doubles channel currents when applied at 10 µM.2 Through its effects on KCNQ channels, flupirtine serves as a centrally-acting analgesic with muscle tone-reducing activity.1,3 It is poorly metabolized by liver microsomal preparations and is, instead, targeted by peroxidases, including myeloperoxidase.3 Flupirtine also decreases neurotoxicity associated with prion disease, reducing cognitive decline in patients with Creutzfeldt-Jakob disease.4

References

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