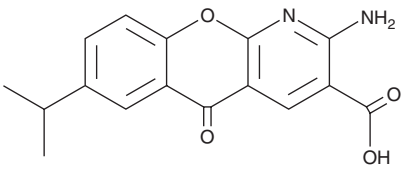
PRODUCT INFORMATION

Amlexanox

Item No. 14181

CAS Registry No.: 68302-57-8
Formal Name: 2-amino-7-(1-methylethyl)5-oxo-5H-[1]benzopyrano[2,3-b]pyridine-3-carboxylic acid
Synonyms: AA 673, CHX 3673, Elics
MF: $C_{16}H_{14}N_2O_4$
FW: 298.3
Purity: ≥98%
UV/Vis.: λ_{max}: 244, 287, 348 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Amlexanox is supplied as a crystalline solid. A stock solution may be made by dissolving the amlexanox in the solvent of choice, which should be purged with an inert gas. Amlexanox is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of amlexanox in these solvents is approximately 10 and 14 mg/ml, respectively.

Amlexanox is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, amlexanox should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Amlexanox 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.

Description

Amlexanox is an anti-inflammatory and anti-allergic compound which is useful in the amelioration of aphthous ulcers (canker sores), commonly used as a 5% topical oral paste.[1,2] By way of mechanism of action, amlexanox associates with the calcium-binding proteins S100A12 and S100A13, inhibits the release of FGF1, and, at 1 mM, induces changes in the actin cytoskeleton.[3,4] More recently, amlexanox has been found to inhibit the non-canonical IKK-ε and TANK-binding kinase 1.[5]

References

1. Bell, J. Amlexanox for the treatment of recurrent aphthous ulcers. *Clin. Drug Invest.* **25(9)**, 555-566 (2005).
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3. Shishibori, T., Oyama, Y., Matsushita, O., *et al.* Three distinct anti-allergic drugs, amlexanox, cromolyn and tranilast, bind to S100A12 and S100A13 of the S100 protein family. *Biochem. J.* **338(Pt 3)**, 583-589 (1999).
4. Landriscina, M., Prudovsky, I., Carreira, C.M., *et al.* Amlexanox reversibly inhibits cell migration and proliferation and induces the Src-dependent disassembly of actin stress fibers *in vitro*. *J. Biol. Chem.* **275(42)**, 32753-32762 (2000).
5. Reilly, S.M., Chiang, S.H., Decker, S.J., *et al.* An inhibitor of the protein kinases TBK1 and IKKe improves obesity-related metabolic dysfunctions in mice. *Nat. Med.* **19(3)**, 313-321 (2013).

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