Product Information

5-Aminolevulinic Acid (hydrochloride)

Item No. 9001902

CAS Registry No.: 5451-09-2
Formal Name: 5-amino-4-oxo-pentanoic acid, monohydrochloride
Synonyms: 5-ALA, 5-Aminolevulinic Acid
MF: C₅H₉NO₃ • HCl
FW: 167.6
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis: λ<sub>max</sub> 265 nm

Laboratory Procedures

For long term storage, we suggest that 5-aminolevulinic acid (5-ALA) (hydrochloride) be stored as supplied at -20°C. It should be stable for at least two years. 5-ALA (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the 5-ALA (hydrochloride) in the solvent of choice. 5-ALA (hydrochloride) is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of 5-ALA (hydrochloride) in these solvents is approximately 10 and 5 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 5-ALA (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 5-ALA (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

5-ALA is a precursor in the biosynthesis of porphyrins, including heme. The conversion of 5-ALA to protoporphyrins within tissues produces a photosensitive target that produces reactive oxygen species upon exposure to light. In this way, it is used in photodynamic therapy for a range of dermatological conditions, cancers, and other diseases. Also, oral administration of 5-ALA leads to the preferential accumulation of the fluorescent molecule protoporphyrin IX within certain types of cancer cells. This allows fluorescence-based identification of tumor tissue for accurate resection of diseased tissue.

References


Related Products

For a list of related products please visit: www.caymanchem.com/catalog/9001902

WARNING: This product is for laboratory research only; not for administration to humans. Not for human or veterinary diagnostic or therapeutic use.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent to your email at your institution.

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