

Product Information

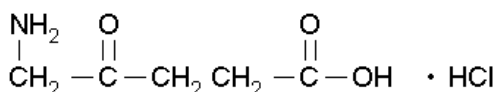
5-Aminolevulinic acid hydrochloride

Product Number **A 3785**
 Storage Temperature $-20\text{ }^{\circ}\text{C}$

CAS RN: 5451-09-2

Synonyms: δ -Aminolevulinic acid hydrochloride;
 5-Aminolevulinic acid hydrochloride; 5-Amino-4-oxo-
 pentanoic acid hydrochloride

Product Description



Molecular formula: $\text{C}_5\text{H}_9\text{NO}_3 \cdot \text{HCl}$
 Molecular weight: 167.59

Melting Point: $144\text{-}151\text{ }^{\circ}\text{C}$ ¹
 pKa: 4.05 and 8.90 at $25\text{ }^{\circ}\text{C}$ ¹

Method of preparation:

A 3785 is prepared synthetically by a proprietary method. Other methods of preparation are given in references²⁻⁵.

5-Aminolevulinic acid (ALA) is the universal precursor of tetrapyrroles, such as chlorophyll and heme. In mammals, yeast, fungi and the purple bacteria, ALA is formed by the Shemin pathway. Then it is used in the synthesis of hemes, vitamin B12 and bacteriochlorophyll. In the chloroplasts of higher plants ALA is formed in the C-5 pathway.^{6,7} ALA was found to release iron from ferritin *in vitro*.⁸ In the labeled form, it is used in porphyrin biosynthesis studies.⁹ It enhances chlorophyll formation.¹⁰ and may be used as a photodynamic herbicide.¹¹ Lately it has been used in photodynamic therapy as it is converted to protoporphyrin IX in tumor tissues.^{12,13}

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

The product is soluble in water at 50 mg/ml, yielding a clear colorless solution. If used in cell culture, the medium should be changed every 3 days. When dissolved in base, the product forms a cyclic amide.¹

Storage /Stability

Store desiccated at $-20\text{ }^{\circ}\text{C}$. Under these conditions the product is stable for 3 years. Stock solutions should be refrigerated.

References

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