Specification Sheet

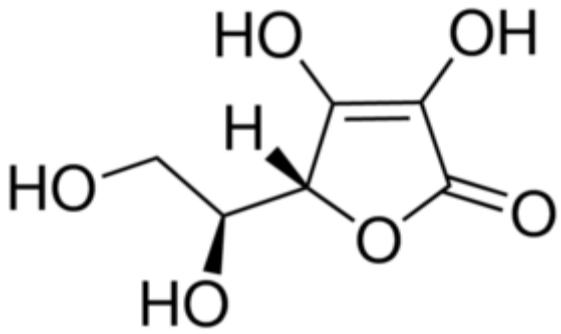
A5960 Sigma-Aldrich

L-Ascorbic acid

BioXtra, ≥99.0%, crystalline

Synonym: **L-Threoascorbic acid, Antiscorbutic factor, Vitamin C**

- **CAS Number** 50-81-7
- **Empirical Formula (Hill Notation)** $C_6H_8O_6$
- **Molecular Weight** 176.12
- **Beilstein/REAXYS Number** 84272
- **EC Number** 200-066-2
- **MDL number** MFCD00064328
- **PubChem Substance ID** 24891042
- **NACRES** NA.26



SKU-Pack Size	Availability	Pack Size	Price (SGD)	Quantity
A5960-10MG	Estimated to ship on 28.04.2021 - FROM	10 mg		0
A5960-25G	Available to ship on 14.04.2021 - FROM	25 g		0
A5960-100G	Available to ship on 14.04.2021 - FROM	100 g		0
A5960-500G	Estimated to ship on 28.04.2021 - FROM	500 g		0

Properties

Related Categories	Biochemicals and Reagents, Cofactors, Core Bioreagents, Enzymes, Inhibitors, and Substrates, Oxidation-Reduction,
product line	**BioXtra**
assay	**≥99.0%**
form	**crystalline**
application(s)	**cell culture | mammalian: suitable**
impurities	**≤0.0005% Phosphorus (P)**
	≤0.1% Insoluble matter
ign. residue	**≤0.1%**
color	**white to off-white**
pH	**1.0-2.5 (25 °C, 176 g/L in water)**
mp	**190-194 °C (dec.)**
solubility	**H_2O: 0.5 M, clear, colorless**
anion traces	**sulfate (SO_4^{2-}): ≤0.05%**
cation traces	**Al: ≤0.0005%**
	Ca: ≤0.0005%
	Cu: ≤0.0005%
	Fe: ≤0.0005%

	K: ≤0.005%
	Mg: ≤0.0005%
	NH_4^+: ≤0.05%
	Na: ≤0.005%
	Pb: ≤0.001%
	Zn: ≤0.0005%
storage temp.	**room temp**
SMILES string	**OC([C@]([C@@H](O)CO)([H])O1)=C(O)C1=O**
InChI	**1S/C6H8O6/c7-1-2(8)5-3(9)4(10)6(11)12-5/h2,5,7-10H,1H2/t2-,5+/m0/s1**
InChI key	**CIWBSHSKHKDKBQ-JLAZNSOCSA-N**
Gene Information	**human ...** SLC23A2**(9962)**

Show Fewer Properties

Description

General description

Ascorbic acid is also referred to as Vitamin C.[5] It contains a six-carbon lactone produced by plants and some animal species but not by humans and other primates. Vitamin C is a water-soluble vitamin.[6] Vitamin C is a part of citrus fruits, such as Indian gooseberry, broccoli, strawberries, brussels sprouts.[6] L-ascorbic acid is the biologically active form of ascorbic acid. It is unstable and hydrophilic.[5] Ascorbic acid carries a neutral charge, which gets converted to ascorbate by protonation.[7]

Application

• L-Ascorbic acid has been used to induce osteoblast differentiation from primary bone marrow cultures.

• It has been used for the differentiation of hCMPCs (human cardiomyocyte progenitor cells) into cardiomyocytes.[3]

• It has been used to measure the mitochondrial electron transport chain (complex IV) activity.[4]

Packaging

10 mg in glass bottle

25, 100, 500 g in poly bottle

Biochem/physiol Actions

L-Ascorbic acid plays a role in production of neurotransmitters, carnitine and collagen synthesis.[6] Ascorbic acid functions as an enzymatic cofactor for multiple enzymes, serving as an electron donor for monooxygenases and dioxygenases. Ascorbic acid also functions as a powerful antioxidant, particularly in regards to reactive oxygen species.[1] Vitamin C exhibits anti-oxidant properties. Vitamin C is implicated in conferring protection against photoaging and anti-aging.[5] Deficiency of vitamin C is associated with scurvy, bleeding gums, poor wound healing, anemia and muscle degeneration.[6]

Caution

May darken in storage.