Specification

L(+)-Ascorbic Acid powdered *BioChemica* A1052

Solubility:	333 g/L (H_2O)
Physical Description:	Solid
Product Code:	A1052
Product Name:	L(+)-Ascorbic Acid powdered *BioChemica*
Specifications:	Assay (titr.): min. 99 % α20°C/D; 10 %, H_2O: +20.5° - +21.5° pH (5 %; H_2O; 20°C): 2.2 - 2.5 Heavy metals (as Pb): max. 0.0005 % Insoluble matter: passes test Oxalic acid: max. 0.2 % Chloride: max. 0.005 % Sulfate: max. 0.002 %
WGK:	1
Storage:	RT
Molecular Formula:	$C_6H_8O_6$
M:	176.13 g/mol
CAS:	50-81-7
EINECS:	200-066-2
CS:	29362700

Comment

An important function of ascorbic acid (vitamin C) in the organism is the protection of $Fe^{2\+}$ in oxygenases from the oxidation to $Fe^{3\+}$ or as a reducing agent in hydroxylation reactions, like the conversion of proline to hydroxyproline in collagen. Oxygen irreversibly oxidizes ascorbic acid in aqueous solution to L-diketogulonic acid and other biologically inactive substances.For the preparation of plant cell and tissue extracts, high concentrations of reducing agents have to be added to the homogenisation buffers. Especially for the preparation of chloroplasts, the physiological reducing agents ascorbic acid and glutathione will be applied (3, 4). The ascorbate stock solution (100X) is composed of 50 mM HEPES-NaOH (pH 7.6) with 0.5 M ascorbate and stored at -20°C. The working concentration is 2 mM (4) to 5 mM (3) ascorbate.

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Bibliography

(1)Kanfer, J.N. & Spielvogel, C.H. (1973) *Biochim. Biophys. Acta* **327**, 405-411The inhibition of β-*N*-acetylhexosaminidase by lactones. (2)Omaye, S.T. *et al*. (1979) *Methods Enzymol.* **62**, 3-11Methods for the determination of ascorbic acid in animal cells, tissues and fluids. (3)Gegenheimer, P. (1990) *Methods Enzymol.* **182**, 174-193Preparation of extracts from plants. (4)Hager-Braun, C. *et al.* (1995) *Biochemistry* **34**, 9617-9624Stable photobleaching of P480 in *Chlorobium* reaction center preparations\: presence of the 42-kDa bacteriochlorophyll *a* protein and a 17-kDa polypeptide.

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