

Product Data Sheet

Product Name: Fructosyl-lysine

Cat. No.: GC60170

Chemical Properties

Cas. No. 21291-40-7

SMILES N[C@H](C(O)=O)CCCCNCC([C@@H](O)[C@H](O)[C@H](O)CO)=O

Formula $C_{12}H_{24}N_2O_7$ M.Wt 308.33

Solubility H_2O : 60 mg/mL (194.60 mM;
ultrasonic and warming and heat to
60°C) Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

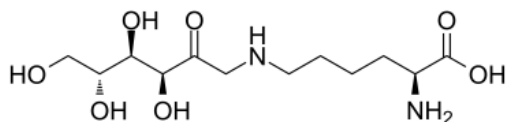
Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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Structure



Background

Fructosyl-lysine (Fructoselysine) is an amadori glycation product from the reaction of glucose and lysine by the Maillard reaction. Fructosyl-lysine is the precursor to glucosepane, a lysine-arginine protein cross-link that can be an indicator in diabetes detection[1].

Fructosyl-lysine (5 mM; 0.5 hours) catalyzes the ATP-dependent conversion of [14C]fructoselysine to anionic products suggesting the existence of a fructoselysine-kinase activity in E .coli extracts[2].Fructosyl-lysine (100 µM; 1 hour) contains a carbohydrate moiety and appears to be phosphorylated, it can be converted to glucose 6-phosphate in bacterial extracts in E .coli extracts[2].Fructosyl-lysine (25 mM; 25 hours) lets E. coli growth at a rate of about one-third of that observed with glucose as a carbon source. Lysine itself does not support growth in the absence of other carbon source and does not affect the growth observed with glucose[2].

Fructosyl-lysine and AGE residues is increased markedly in glomeruli, retina, sciatic nerve, and plasma protein in diabetic rats[1].

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[1]. Rabbani N, et al. Hidden complexities in the measurement of fructosyl-lysine and advanced glycation end products for risk prediction of vascular complications of diabetes. Diabetes. 2015 Jan;64(1):9-11. [2]. Karachalias N, et al. Accumulation of fructosyl-lysine and advanced glycation end products in the kidney, retina and peripheral nerve of streptozotocin-induced diabetic rats. Biochem Soc Trans. 2003 Dec;31(Pt 6):1423-5.

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