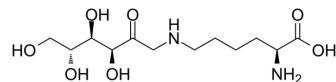


## Fructosyl-lysine

Cat. No.:	HY-129380		
CAS No.:	21291-40-7		
Molecular Formula:	C <sub>12</sub> H <sub>24</sub> N <sub>2</sub> O <sub>7</sub>		
Molecular Weight:	308.33		
Target:	Endogenous Metabolite		
Pathway:	Metabolic Enzyme/Protease		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

H<sub>2</sub>O : 60 mg/mL (194.60 mM; ultrasonic and warming and heat to 60°C)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	3.2433 mL	16.2164 mL	32.4328 mL
	5 mM	0.6487 mL	3.2433 mL	6.4866 mL
	10 mM	0.3243 mL	1.6216 mL	3.2433 mL

Please refer to the solubility information to select the appropriate solvent.

### BIOLOGICAL ACTIVITY

#### Description

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<sup>[1]</sup>.

#### IC<sub>50</sub> & Target

IC<sub>50</sub>: precursor to glucosepane<sup>[2]</sup>

#### In Vitro

Fructosyl-lysine (5 mM; 0.5 hours) catalyzes the ATP-dependent conversion of [<sup>14</sup>C]fructoselysine to anionic products suggesting the existence of a fructoselysine-kinase activity in *E. coli* extracts<sup>[2]</sup>.  
 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<sup>[2]</sup>.  
 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<sup>[2]</sup>.  
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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**In Vivo**

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

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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**REFERENCES**

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

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