

Streptolysin O

Cat. No.:	HY-135416			
CAS No.:	98072-47-0			
Target:	Endogenous Metabolite			
Pathway:	Metabolic Enzyme/Protease			Hemolysins O, Streptococcus group A
Storage:	Powder	-20°C	3 years	
		4°C	2 years	
	In solvent	-80°C	6 months	
		-20°C	1 month	

SOLVENT & SOLUBILITY

In Vitro H₂O : 1 mg/mL (Need ultrasonic)

BIOLOGICAL ACTIVITY

Description Streptolysin O, a group A streptococcal toxin, is a well-characterized oxygen-labile prototype of a cholesterol-binding bacterial exotoxin. Streptolysin O causes both lysis of cells and cardiotoxicity. Streptolysin O is widely used for the controlled permeabilization of cell membranes. Streptolysin O exists in two forms, a reduced active state and an oxidized reversibly inactive state^{[1][2][3][4]}.

In Vitro Streptolysin O is a labile toxin, and, with time, activity is irreversibly lost. The rate of activity loss is slowed by incubation with 0.1 M 2-mercaptoethanol or 0.01 M ethylenediaminetetraacetic acid (EDTA)^[2]. Streptolysin O, belongs to the group of thiol-activated toxins, is a secreted virulence factor of GAS that induces apoptosis in neutrophils and macrophages at later time points (~4 h). Streptolysin O induces eukaryotic cell lysis in a cholesterol-dependent manner, is highly upregulated in the GAS M1T1 clone during bloodstream dissemination. Streptolysin O is known to promote Group A Streptococcus (GAS) resistance to phagocytic clearance by neutrophils, a critical first element of host defense against invasive bacterial infection^[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Sierig G, et al. Cytotoxic effects of streptolysin o and streptolysin s enhance the virulence of poorlyencapsulated group a streptococci. *Infect Immun*. 2003 Jan;71(1):446-55.
- [2]. Van Epps DE, et al. Streptolysin O II. Relationship of Sulfhydryl Groups to Activity. *Infect Immun*. 1971 May;3(5):648-52.
- [3]. Uchiyama S, et al. Streptolysin O Rapidly Impairs Neutrophil Oxidative Burst and Antibacterial Responses to Group A Streptococcus. *Front Immunol*. 2015 Nov 16;6:581.
- [4]. Yamamoto I, et al. Mutational and comparative analysis of streptolysin O, an oxygen-labile streptococcal hemolysin. *Biosci Biotechnol Biochem*. 2001 Dec;65(12):2682-9.

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

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