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## Product Data Sheet

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Product Name: Protamine sulfate

Cat. No.: GC62048

### Chemical Properties

Cas. No. 9009-65-8

Formula

M.Wt

Solubility H<sub>2</sub>O :  $\geq 33.33$  mg/mL

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.

Structure

### Background

Protamine sulfate, polycationic peptide and a antiheparin agent, could neutralize the anticoagulant action of heparin and enhances lipid-mediated gene transfer[1][2][3].

Protamine sulfate has an inhibitory effect on thrombin in the conversion of fibrinogen to fibrin, and that this inhibition is concentration dependent, partial, and reversible[3]. Protamine sulfate is a 5-kDa cationic polypeptide derived from salmon sperm that can bind negatively charged unfractionated heparin (UFH). Protamine sulfate down-regulates thrombin generation by inhibiting factor V activation[4].

[1]. Ahmed Kouta, et al. Protamine Sulfate Neutralization Profile of Various Dosages of Bovine, Ovine and Porcine UFHs and Their Depolymerized Derivatives in Non-Human Primates. Clin Appl Thromb Hemost. Jan-Dec 2021;27:10760296211005544.

[2]. F L Sorgi, et al. Protamine sulfate enhances lipid-mediated gene transfer. Gene Ther. 1997 Sep;4(9):961-8.

[3]. R J Cobel-Geard, et al. Interaction of protamine sulfate with thrombin. Am J Hematol. 1983 May;14(3):227-33.

[4]. Fionnuala Ni Ainle, et al. Protamine sulfate down-regulates thrombin generation by inhibiting factor V activation. Blood. 2009 Aug 20;114(8):1658-65.

**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