



Hirudin Recombinant

Product Data Sheet

Cat. No.:	A13620002	A13620010	A13621000
Size:	2 µg	10 µg	1 mg

Description

Our bioactive *Hirudin Recombinant* protein, expressed in yeast, is a polypeptide chain that contains 65 amino acids and has a 6979.5 Dalton molecular mass. *Hirudin Recombinant* is identical to natural Hirudin except for the substitution of leucine for isoleucine at the N-terminal end of the molecule and the absence of a sulfate group on the tyrosine at position 63. The protein is purified by proprietary chromatographic techniques.

Summary

Hirudin is a potent thrombin inhibitor originally derived from the medicinal leech (*Hirudo medicinalis*). Hirudin is the strongest natural inhibitor of thrombin. Hirudin binds to and inhibits only the activity of thrombin forms with a specific activity on fibrinogen contrasting to antithrombin III activity. Therefore, hirudin has a thrombolytic activity since it prevents or dissolves the formation of clots and thrombi.

Hirudin also has therapeutic significance in blood coagulation disorders, in the treatment of skin hematomas and of superficial varicose veins. Hirudin does not hinder with the biological activity of other serum proteins and can also act on complexed thrombin, thus having an advantage over more common anticoagulants and thrombolytics.

It is complicated to extract large quantities of hirudin from natural sources; therefore a method for producing and purifying hirudin using recombinant biotechnology has been developed.

Source

Pichia pastoris (Yeast)

Formulation

Sterile filtered white lyophilized (freeze-dried) powder. The hirudin protein was lyophilized from a sterile solution containing 20mM PBS pH-7 and 2% mannitol.

update.: 02.2024

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Purity

Greater than 98.0% as determined by:

1. Analysis by RP-HPLC.
2. Analysis by SDS-PAGE.

Biological Activity

The specific activity was found to be greater than 14,000 ATU/mg.

Reconstitution

It is recommended to reconstitute the lyophilized Hirudin in sterile 18M Ω -cm H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions.

Shipping

Ships at ambient temperature. Upon receipt, store the product at the temperature recommended below.

Storage/Expiration

Lyophilized hirudin, although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution, hirudin should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% [HSA or BSA](#)). **Please prevent freeze-thaw cycles.**

Usage

This product is intended for **Laboratory Research Use Only**. Not for use in diagnostic or therapeutic procedures. This product may not be used as a pharmaceutical or veterinary drug, agricultural product, or food additive.

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