

Product Information

Hemocyanin, succinylated from *Megathura crenulata* (keyhole limpet)

Catalog Number **H5654**

Storage Temperature –20 °C

Product Description

Hemocyanins are multimeric, high molecular mass, oxygen transport metalloproteins. KLH, from the hemolymph of the marine mollusc *Megathura crenulata*, is expressed as two subunit isoforms (KLH1 and KLH2) of 350–400 kDa. The KLH monomers each contain 7 or 8 functional unit domains, each functional unit containing an oxygen binding site carrying two copper atoms. Both KLH isoforms can assemble into multimeric forms containing native decamers of $4\text{--}8 \times 10^6$ Da. Higher multimeric forms have also been described. KLH is often used as a carrier protein due to its highly immunogenic properties and the large number of lysine residues available for modification. Synthetic peptides can be coupled to KLH by means of different conjugation methods and then used for immunization.³

Succinylated KLH is prepared by extensive modification/blocking of lysine groups of KLH with succinic anhydride. This specially prepared chemically modified form of KLH is highly water soluble, negatively charged, and provides a large number of carboxyl groups available for conjugation to the hapten. The additional carboxyl groups on succinylated KLH allows for conjugation of an amine containing hapten (peptide) using a water soluble carbodiimide as the crosslinking reagent.

Succinylated KLH is suitable for the preparation of immunogens for injection due to its high solubility in water and buffers. Haptens such as peptides can be coupled to succinylated KLH using water soluble carbodiimides, e.g., *N*-(3-dimethylaminopropyl)-*N'*-ethyl carbodiimide HCl (EDAC, Catalog Number E1769), as crosslinking reagents.

The product is provided lyophilized from 10 mM sodium phosphate buffer pH 7.4, 0.32 M NaCl and 20 mM sucrose with no preservatives added.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

To one vial of lyophilized powder, add 2 ml of deionized water. Rotate vial gently until powder yields an opalescent solution.

Storage/Stability

Prior to reconstitution, store the product at –20 °C.

After reconstitution, the solution may be stored frozen in working aliquots for a maximum of two months or at 2–8 °C for a maximum of two weeks in 0.1% sodium azide. Dialyze before use to remove sodium azide. Repeated freezing and thawing is **not** recommended. If slight turbidity occurs upon prolonged storage clarify the solution by centrifugation before use.

References

1. Harlow, E., and Lane, D., *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, (Cold Spring Harbor, NY: 1988).
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3. Van Regenmortel, M. et al., in: *Synthetic Polypeptides as Antigens*, Burdon, R., and Van Knippenberg, P., (eds.), Elsevier Science (1988).
4. Markl, J. et al., *Naturwissenschaften*, **78**, 512 (1991).
5. Herskovits, T.T., *Comp. Biochem. Physiol. B*, **91(4)**, 597–611 (1988).

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