

Native Shrimp hemocyanin Protein, a substitute for KLH, animal free, SMCC Activated

Cat. No. Hemocyanin-31S **Lot. No.** (See product label)

SPECIFICATION

Product Overview	<p>Native animal free shrimp hemocyanin protein is a substitute for KLH.</p> <p>Highly immunogenic: SHC owns the comparable immunogenicity to KLH</p> <p>High-yield conjugation: Conjugation efficiency higher than KLH</p> <p>Excellent solubility: SHC is more soluble than KLH, and is compatible with poorly soluble haptens</p> <p>Excellent performance: Verified through hundreds of antibody generation test</p>
Species	Penaeus vannamei
Source	Penaeus vannamei
ProteinLength	Full length
Description	<p>Shrimp hemocyanin (SHC), a highly soluble hemocyanin from the Penaeus vannamei (P. vannamei), is used as a substitute for KLH. Similar to KLH, SHC serves as a carrier protein for conjugation of hapten (including peptides, nucleic acids, drugs, or toxins). The conjugates would make these haptens highly immunogenic. The immunogenicity of SHC is comparable to KLH. However, the solubility is significantly higher, especially after hapten conjugation. Thus, SHC is advantageous for antibody or vaccine generation.</p>
Molecular Mass	75 kDa
Purity	≥ 98% (SDS-PAGE and SEC)

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Applications

Conjugation with hapten:

1. Dissolve an appropriate amount of lyophilized SHC (SMCC-activated) powder in ultrapure water to prepare a 10 mg/mL SHC solution.
2. Dissolve 20 mg of the thiol-containing hapten in 5 mL of coupling buffer (83 mM sodium phosphate, 0.1 M EDTA, 0.9 M NaCl, 0.1 mM TCEP, pH 7.2). Note: 0.1 mM TCEP is not necessary; its main function is to reduce disulfide bonds in the hapten to thiol groups.
3. Immediately mix the hapten solution with an equal volume of the SMCC-activated SHC solution and incubate at room temperature for 2 hours.
4. Remove EDTA using size-exclusion chromatography.

Storage

Store it at -20 centigrade for 12 months. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

Storage Buffer

Lyophilized with no additives

Reconstitution

The hemocyanin is provided in a lyophilized form that is dissolved in ultrapure water. When using, an appropriate solution can be added for re-suspension as needed.

GENE INFORMATION**Official Symbol**

Hemocyanin

Synonyms

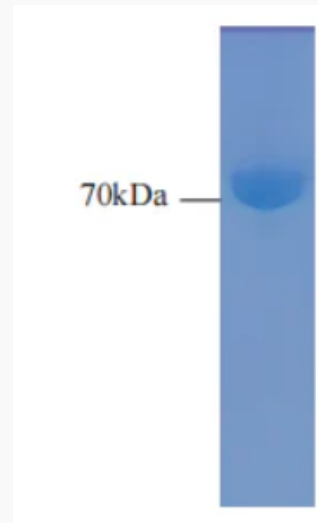
Hemocyanin

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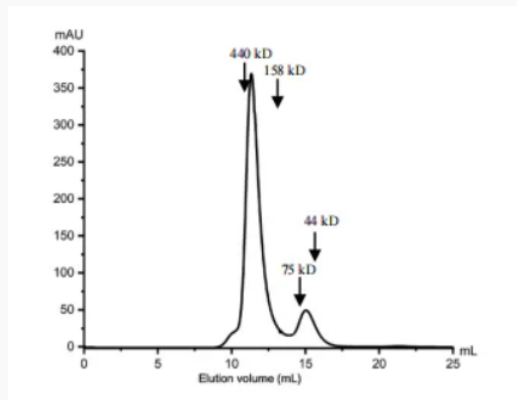
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SDS-PAGE of purified hemocyanin



SEC of purified hemocyanin



Electron microscopy analysis of purified hemocyanin. From the data, most of hemocyanin is present as a tetramer in physical environment

Shrimp hemocyanin owns the comparable immunogenicity to KLH. In each group, 3

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female mice were used for immunization at the induced time in figure. Elisa was used to detect the level of anti-SHC or anti-KLH antibodies.

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