YamayBio

Native SHC Protein (Shrimp Hemocyanin, Activated, KLH Substitution)

QUICK START GUIDE

For research use only.
Not for use in diagnostic procedures.

Contents and Storage

Native SHC Protein (Shrimp Hemocyanin, Activated, KLH Substitution)

SH2172-10 mg

SH2172-100 mg

SH2172-100 mg × 6

Storage: Store at -20 °C. The product is shipped at room temperature.

Introduction

YamayBio Mariculture SHC is a purified shrimp (*Penaeus vannamei*) hemocyanin. It can be used as a substitute for Keyhole Limpet Hemocyanin (KLH) as a carrier protein for conjugation with low-molecular-weight molecules such as peptides, nucleic acids, drugs, or toxins, thereby enhancing their immunogenicity. Comparative testing has shown that SHC exhibits comparable immunogenicity to KLH, while offering significantly improved solubility, particularly after hapten conjugation, providing greater flexibility during immunogen preparation.

Molecular Weight: 70 kDa and 73 kDa

Appearance: Dark blue powder

Purity (MPLC-SEC): ≥ 98%

Extinction Coefficient: 280 nm(ε=1.277 cm^{-1}×mg^{1}×mL)

Native PAGE analysis: Two main characteristic bands near 70 kDa (MW standard)

Endotoxin Level: ≤ 11.7 USP-EU/mg

Product Form: Lyophilized powder. Reconstitute with ultrapure water before use.

Procedure for Hapten-Carrier Conjugation with Activated SHC

Conjugation with Hapten:

1. Dissolve the lyophilized SHC powder in ultrapure water to a final concentration of 10 mg/mL.
2. Dissolve 20 mg of 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).
3. Immediately mix equal volumes of the hapten solution and activated SHC, and incubate the reaction at room temperature for 2 hours.
4. Remove EDTA by molecular sieve chromatography.

Note: The addition of 0.1 mM TCEP is optional and may be used to reduce disulfide in the hapten to free thiol groups prior to conjugation.

This product is accurately quantified. Dissolve and use directly in the original vial at the desired concentration. Do not divide or transfer this product, as this may result in significant material loss due to product properties or static electricity.