

PRODUCT INFORMATION



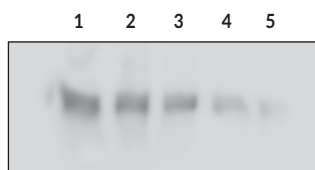
KLH Polyclonal Antibody

Item No. 14046

Overview and Properties

Contents:	This vial contains 100 µg of protein A-purified polyclonal antibody.
Synonym:	Keyhole Limpet Hemocyanin
Immunogen:	Shellfish KLH protein
Cross Reactivity:	(+) KLH
Uniprot No.:	Q10583
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Host:	Rabbit
Applications:	ELISA and Western blot (WB); the recommended starting dilution for ELISA and WB is 1:200. Other applications were not attempted and therefore optimal working dilutions should be determined empirically.

Image



Lane 1: KLH (150 ng)
Lane 2: KLH (75 ng)
Lane 3: KLH (30 ng)
Lane 4: KLH (15 ng)
Lane 5: KLH (7 ng)

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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Description

Keyhole limpet hemocyanin (KLH) is a copper-containing respiratory glycoprotein from the hemolymph of the marine mollusk *M. crenulate* that is involved in oxygen uptake, transport, and release.¹⁻³ It exists as two isoforms, KLH1 and KLH2, and is composed of eight globular functional units that each contain an oxygen binding site and arrange into decamers, didecamers, or multidecamers to form a cylindrical pore.^{2,4} Due to its immunogenicity, KLH has commonly been used as a T cell-dependent model antigen.^{2,5} Immunization of mice with a peptide derived from *A. baumannii* outer membrane protein A (OmpA) conjugated to KLH produces a monoclonal antibody that increases macrophage opsonization of antibiotic-resistant *A. baumannii* *in vitro*.⁶ Serum isolated from mice vaccinated with KLH conjugated to 2,4-dinitrophenyl (DNP) and an analog of the tumor-associated carbohydrate antigen ganglioside G_{M3} exhibits increased IgG antibody titers and induces antibody-dependent cell cytotoxicity (ADCC) in B16/F10 mouse skin melanoma cells expressing a DNP-ganglioside G_{M3} analog conjugate.⁷ Cayman's KLH Polyclonal Antibody can be used for ELISA and Western blot (WB) applications.

References

1. Swerdlow, R.D., Ebert, R.F., Lee, P., *et al.* Keyhole limpet hemocyanin: Structural and functional characterization of two different subunits and multimers. *Comp. Biochem. Physiol. B Biochem. Mol. Biol.* **113(3)**, 537-548 (1996).
2. Harris, J.R. and Markl, J. Keyhole limpet hemocyanin (KLH): A biomedical review. *Micron* **30(6)**, 597-623 (1999).
3. Kurokawa, T., Wuhler, M., Lochnit, G., *et al.* Hemocyanin from the keyhole limpet *Megathura crenulata* (KLH) carries a novel type of N-glycans with Gal(β1-6)Man-motifs. *Eur. J. Biochem.* **269(22)**, 5459-5473 (2002).
4. Gastogiannis, C. and Markl, J. Keyhole limpet hemocyanin: 9-A CryoEM structure and molecular model of the KLH1 didecamer reveal the interfaces and intricate topology of the 160 functional units. *J. Mol. Biol.* **385(3)**, 963-983 (2009).
5. Swaminathan, A., Lucas, R.M., Dear, K., *et al.* Keyhole limpet haemocyanin - A model antigen for human immunotoxicological studies. *Br. J. Clin. Pharmacol.* **78(5)**, 1135-1142 (2014).
6. Yeganeh, O., Shabani, M., Pakzad, P., *et al.* Evaluation the reactivity of a peptide-based monoclonal antibody derived from OmpA with drug resistant pulsotypes of *Acinetobacter baumannii* as a potential therapeutic approach. *Ann. Clin. Microbiol. Antimicrob.* **21(1)**, 30 (2022).
7. Lin, H., Hong, H., Feng, L., *et al.* Synthesis of DNP-modified GM3-based anticancer vaccine and evaluation of its immunological activities for cancer immunotherapy. *Chin. Chem. Lett.* **32(12)**, 4041-4044 (2021).