

Anti-Mouse H-2K^d (MHC Class I) Purified *in vivo* GOLD™ Functional Grade Monoclonal Antibody

Product Information

Product No.: H146
Clone: A4C8.1-Do9
RRID: AB_2737514
Isotype: Mouse IgG1 κ
Storage: Sterile 2-8°C

Product Description

Specificity:

Clone A4C8.1-Do9 recognizes an epitope on mouse MHC class I H-2K haplotype d.

Antigen Distribution:

H-2Kd is ubiquitously expressed on nucleated cells from mice of the H-2Kd haplotype, including BALB/c.

Background:

H-2Kd antibody, clone A4C8.1-Do9, recognizes the major histocompatibility complex (MHC) class I H-2K haplotype d (H-2Kd). MHC class I is ubiquitously expressed on the cell surface of nucleated cells and consists of a 45-kDa type I transmembrane glycoprotein (α -chain or heavy chain) and a 12-kDa soluble protein (β 2-microglobulin, β 2M)^{1,2}. The α -chain consists of three domains (α 1, α 2, and α 3)³. α 1 and α 2 form the closed antigen-binding groove and bind to 8-10 aa peptides derived from cytosolic antigens⁴⁻⁶. β 2M noncovalently associates with α 3, which is essential for MHC stability. H-2Kd plays a critical role in the adaptive immune response by presenting endogenous antigens to cytotoxic CD8 T cells. MHC class I molecules can also present exogenous antigens to CD8 T cells via a process known as cross-presentation⁷. The T cell receptor (TCR)/CD3 complex of CD8 T cells interacts with peptide-MHC class I, which induces CD8 T cell activation and subsequent cell-killing. CD8 molecules also bind to MHC class I, which helps augment TCR signaling⁸. In contrast to CD8 T cells, MHC class I is an inhibitory ligand for natural killer (NK) cells, promoting self tolerance⁹. MHC class I also contributes to the positive selection of CD8 T cells and NK cell specificity^{10,11}.

Known Reactivity Species:

Mouse

Format:

in vivo GOLD™, Purified *in vivo* Functional Grade

Formulation

This monoclonal antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.

Purity

≥95% monomer by analytical SEC, >95% by SDS Page

Endotoxin

< 1.0 EU/mg as determined by the LAL method

Storage and Stability

Functional grade preclinical antibodies may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at ≤ -70°C. **Avoid Repeated Freeze Thaw Cycles.**

Products are for research use only. Not for use in diagnostic or therapeutic procedures.

Product Datasheet

www.leinco.com



Product Preparation

Functional grade preclinical antibodies are manufactured in an animal free facility using *in vitro* cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.

Applications

Applications and Recommended Usage (Quality Tested By Leinco):

FC The suggested concentration for clone A4C8.1-Do9 antibody for staining cells in flow cytometry is $\leq .25 \mu\text{g}$ per 10^6 cells in a volume of 100 μl or 100 μl of whole blood. Titration of the reagent is recommended for optimal performance for each application.

Other Applications Reported in Literature:

WB

Country of Origin

USA

References

1. Mitaksov V & Fremont DH. S (2006) J Biol Chem. 281(15):10618-25
2. Wieczorek M, et al. (2017) Front Immunol. 8:292.
3. Jones EY. (1997) Curr Opin Immunol. 9(1):75-9

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