

# Qa-2 (695H1-9-9): sc-52552

## BACKGROUND

Qa-1-5 are non-classical MHC class I cell surface antigens encoded by the region of the murine 17th chromosome telomeric to H2-D. The molecular weight and subunit structure of Qa-2 molecules are similar to H2 antigens, though the Qa-2 heavy chain has two additional NH<sub>2</sub>-terminal amino acids and several critical amino acid interchanges. Qa-2 affects the rate of embryonic cleavage during the preimplantation stages of development and is also involved in adaptive and innate immune responses. The Qa-2 antigen also functions in resistance to *T. crassiceps* cysticercosis. Qa-2 is unique in that it can associate with a diverse array of peptide sequences and requires two dominant C-terminal anchor residues when binding to peptides.

## REFERENCES

1. Soloski, M.J., Uhr, J.W. and Vitetta, E.S. 1982. Primary structural studies of the Qa-2 alloantigen: implications for the evolution of the MHC. *Nature* 296: 759-761.
2. Soloski, M.J., Vitetta, E.S., Flaherty, L. and Uhr, J.W. 1982. Biochemical analysis of an MHC-linked hematopoietic cell surface antigen, Qa-2. *J. Supramol. Struct. Cell. Biochem.* 16: 167-177.
3. Sharrow, S.O., Arn, J.S., Stroynowski, I., Hood, L. and Sachs, D.H. 1989. Epitope clusters of Qa-2 antigens defined by a panel of new monoclonal antibodies. *J. Immunol.* 142:3495-3502.
4. Sharabi, Y. and D.H. Sachs. 1990. *In vivo* effects of monoclonal antibodies to distinct epitopes of Qa-2 antigens. *J. Exp. Med.* 171:211-219.
5. Fragoso, G., Lamoyi, E., Mellor, A., Lomeli, C., Hernández, M. and Sciutto, E. 1998. Increased resistance to *Taenia crassiceps* murine cysticercosis in Qa-2 transgenic mice. *Infect. Immun.* 66: 760-764.
6. He, X., Tabaczewski, P., Ho, J., Stroynowski, I. and Garcia, K.C. 2001. Promiscuous antigen presentation by the nonclassical MHC Ib Qa-2 is enabled by a shallow, hydrophobic groove and self-stabilized peptide conformation. *Structure* 9: 1213-1224.
7. Comiskey, M., Goldstein, C.Y., De Fazio, S.R., Mammolenti, M., Newmark, J.A. and Warner, C.M. 2003. Evidence that HLA-G is the functional homolog of mouse Qa-2, the Ped gene product. *Hum. Immunol.* 64: 999-1004.
8. Chiang, E.Y., Henson, M. and Stroynowski, I. 2003. Correction of defects responsible for impaired Qa-2 class Ib MHC expression on melanoma cells protects mice from tumor growth. *J. Immunol.* 170: 4515-4523.
9. Comiskey, M., Domino, K.E. and Warner, C.M. 2007. HLA-G is found in lipid rafts and can act as a signaling molecule. *Hum. Immunol.* 68: 1-11.

## CHROMOSOMAL LOCATION

Genetic locus: H2-Q7 (mouse) mapping to 17 B1.

## SOURCE

Qa-2 (695H1-9-9) is a mouse monoclonal antibody raised against C3H.SW skin graft and splenocytes of mouse origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Qa-2 (695H1-9-9) is available conjugated fluorescein (sc-52552 FITC, 100 tests in 2 ml), for IF, IHC(P) and FCM.

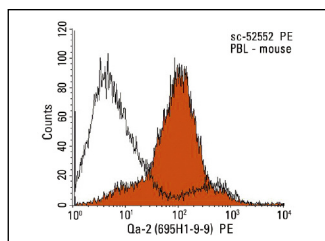
## APPLICATIONS

Qa-2 (695H1-9-9) is recommended for detection of a Qa-2 determined alloantigen of mouse origin by flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for Qa-2 siRNA (m): sc-72141, Qa-2 shRNA Plasmid (m): sc-72141-SH and Qa-2 shRNA (m) Lentiviral Particles: sc-72141-V.

Molecular Weight of Qa-2: 37 kDa.

## DATA



Qa-2 (695H1-9-9): sc-52552. Indirect FCM analysis of mouse peripheral blood leukocytes stained with Qa-2 (695H1-9-9), followed by PE-conjugated goat anti-mouse IgG<sub>2a</sub>; sc-3765. Black line histogram represents the isotype control, normal mouse IgG<sub>2a</sub>; sc-3878.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.