

Rae-1 δ (Charlotte 1.23): sc-53601

BACKGROUND

Natural killer (NK) cells attack tumor and infected cells, but the receptors and ligands that stimulate them are poorly understood. Two murine ligands for the lectin-like receptor NKG2-D, H60 and retinoic acid early inducible (Rae-1 α , β , γ and δ), are distant relatives of major histocompatibility complex class I molecules. These molecules are encoded by Rae-1 and H60 minor histocompatibility antigen genes on mouse chromosome 10 and show weak homology with MHC class I. Expression of the NKG2-D ligands is low or absent on normal, adult tissues; however, they are constitutively expressed on some tumors and upregulated by retinoic acid. Ectopic expression of Rae-1 and H60 confers target susceptibility to NK cell attack. NKG2-D binds to H60 with approximately 25-fold higher affinity than to Rae-1. Rae-1 and H60 compete directly for occupancy of NKG2-D; therefore, NKG2-D can be occupied by only one ligand at a time. Additionally, Rae-1 and H60 ligands of the NKG2-D receptor stimulate tumor immunity.

REFERENCES

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2. Cerwenka, A., Bakker, A.B., McClanahan, T., Wagner, J., Wu, J., Phillips, J.H. and Lanier, L.L. 2000. Retinoic acid early inducible genes define a ligand family for the activating NKG2-D receptor in mice. *Immunity* 12: 721-727.
3. O'Callaghan, C.A., Cerwenka, A., Willcox, B.E., Lanier, L.L. and Bjorkman, P.J. 2001. Molecular competition for NKG2-D: H60 and Rae1 compete unequally for NKG2-D with dominance of H60. *Immunity* 15: 201-211.
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5. Carayannopoulos, L.N., Naidenko, O.V., Kinder, J., Ho, E.L., Fremont, D.H. and Yokoyama, W.M. 2002. Ligands for murine NKG2-D display heterogeneous binding behavior. *Eur. J. Immunol.* 32: 597-605.

CHROMOSOMAL LOCATION

Genetic locus: Raet1d (mouse) mapping to 10 A3.

SOURCE

Rae-1 δ (Charlotte 1.23) is a mouse monoclonal antibody raised against Rae-1 δ -transfected BAF cells of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Rae-1 δ (Charlotte 1.23) is available conjugated to either phycoerythrin (sc-53601 PE) or fluorescein (sc-53601 FITC), 200 μ g/ml, for IF, IHC(P) and FCM.

APPLICATIONS

Rae-1 δ (Charlotte 1.23) is recommended for detection of Rae-1 δ of mouse origin by flow cytometry (1 μ g per 1 x 10⁶ cells); non cross-reactive with Rae-1 γ or other Balb/C Rae-1 molecules.

Suitable for use as control antibody for Rae-1 δ siRNA (m): sc-72383, Rae-1 δ shRNA Plasmid (m): sc-72383-SH and Rae-1 δ shRNA (m) Lentiviral Particles: sc-72383-V.

Molecular Weight of Rae-1 δ : 28 kDa.

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 for detailed protocols and support products.