

H60 (E-18): sc-74073

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 NKG2D, H60 and retinoic acid early inducible (Rae-1), 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 NKG2D 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. NKG2D binds to H60 with approximately 25-fold higher affinity than to Rae-1. Rae-1 and H60 compete directly for occupancy of NKG2D, and, thus, NKG2D can be occupied by only one ligand at a time. Additionally, Rae-1 and H60 ligands of the NKG2D 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 NKG2D 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 NKG2D: H60 and RAE1 compete unequally for NKG2D with dominance of H60. *Immunity* 15: 201-211.
4. Diefenbach, A., Jensen, E.R., Jamieson, A.M., and Raulet, D.H. 2001. Rae1 and H60 ligands of the NKG2D receptor stimulate tumour immunity. *Nature* 413: 165-171.
5. Carayannopoulos, L.N., Naidenko, O.V., Kinder, J., Ho, E.L., Fremont, D.H. and Yokoyama, W.M. 2002. Ligands for murine NKG2D display heterogeneous binding behavior. *Eur. J. Immunol.* 32: 597-605.

CHROMOSOMAL LOCATION

Genetic locus: H60c (mouse) mapping to 10 A1.

SOURCE

H60 (E-18) is a rat monoclonal antibody raised against BaF/3 cells transfected with H60 of mouse origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

H60 (E-18) is recommended for detection of H60 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and flow cytometry (1 µg per 1 x 10⁶ cells).

Molecular Weight of H60: 48 kDa.

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.