SANTA CRUZ BIOTECHNOLOGY, INC.

RAET1G (6D10): sc-53134

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

RAET1 proteins contain MHC class I-like α-1 and α-2 domains. RAET1G and ULBP4 (also known as RAET1E) differ from the other RAET1 proteins in that they have type I membrane-spanning sequences at their C termini rather than glycosylphosphatidylinositol anchor sequences. RAET1G (retinoic acid early transcript 1G protein) is a 334 amino acid single-pass type I membrane protein that belongs to the MHC class I family. The RAET1 protein acts as a ligand for the NKG2-D receptor and mediates NK cell cytotoxicity via the receptor. Highly expressed in colon and in a number of tumor cell lines, RAET1 binds to NKG2-D as well as to the CMV glycoprotein ULBP. The RAET1G protein is 85% similar to the ULBP2 protein. Existing as two alternatively spliced isoforms, the RAET1G gene maps to human chromosome 6q25.1, contains five exons and spans about 6 kb.

REFERENCES

1. Kubin, M., et al. 2001. ULBP1, 2, 3: novel MHC class I-related molecules that bind to human cytomegalovirus glycoprotein UL16, activate NK cells. Eur. J. Immunol. 31: 1428-1437.
2. Cosman, D., et al. 2001. ULBPs, novel MHC class I-related molecules, bind to CMV glycoprotein UL16 and stimulate NK cytotoxicity through the NKG2D receptor. Immunity 14: 123-133.
3. Steinle, A., et al. 2001. Interactions of human NKG2D with its ligands MICA, MICB and homologs of the mouse RAE-1 protein family. Immunogenetics 53: 279-287.
4. Sutherland, C.L., et al. 2002. UL16-binding proteins, novel MHC class I-related proteins, bind to NKG2D and activate multiple signaling pathways in primary NK cells. J. Immunol. 168: 671-679.
5. LocusLink Report (LocusID: 4277). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: RAET1G (human) mapping to 6q25.1.

SOURCE

RAET1G (6D10) is a mouse monoclonal antibody raised against purified RAET1G of human origin.

PRODUCT

Each vial contains 200 µg IgM in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for blocking, sc-53134 L, 200 µg/0.1 ml.

APPLICATIONS

RAET1G (6D10) is recommended for detection of RAET1G of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

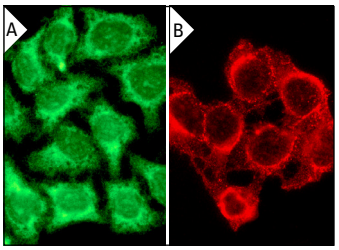
Suitable for use as control antibody for RAET1G siRNA (h): sc-106477, RAET1G shRNA Plasmid (h): sc-106477-SH and RAET1G shRNA (h) Lentiviral Particles: sc-106477-V.

Molecular Weight of RAET1G: 37 kDa.

STORAGE

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

DATA



RAET1G (6D10): sc-53134. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**) and membrane localization (**B**).

SELECT PRODUCT CITATIONS

1. Hedlund, M., et al. 2009. Human placenta expresses and secretes NKG2D ligands via exosomes that down-modulate the cognate receptor expression: evidence for immunosuppressive function. J. Immunol. 183: 340-351.
2. Yao, C., et al. 2018. Rocaglamide enhances NK cell-mediated killing of non-small cell lung cancer cells by inhibiting autophagy. Autophagy 14: 1831-1844.
3. McCarthy, M.T., et al. 2020. Inosine pranobex enhances human NK cell cytotoxicity by inducing metabolic activation and NKG2D ligand expression. Eur. J. Immunol. 50: 130-137.
4. Chintala, S., et al. 2020. Genes regulated by HPV 16 E6 and high expression of NFX1-123 in cervical cancers. Onco Targets Ther. 13: 6143-6156.
5. Ng, W., et al. 2021. Targeting CD155 by rediocide-A overcomes tumour immuno-resistance to natural killer cells. Pharm. Biol. 59: 47-53.

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.