SANTA CRUZ BIOTECHNOLOGY, INC.

GRAIL (E-13): sc-132301

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

GRAIL, also known as RING finger protein 128, is a 428 amino acid type I transmembrane protein localized to the intracytoplasmic membrane. GRAIL contains a protease-associated (PA) domain and a RING finger domain, which binds to E2 ubiquitin-conjugating enzymes. When under anergic conditions, GRAIL functions as an E3 ubiquitin-protein ligase that inhibits IL-2, IL-4 and various other cytokines. GRAIL is also thought to be involved in the patterning of the dorsal ectoderm during development. Expressed in an asymmetric peri-nuclear punctate manner, GRAIL co-localizes with Rab 7, GRP 78 and syntaxin 5. GRAIL is expressed as two isoforms produced by alternative splicing.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300439. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Anandasabapathy, N., et al. 2003. GRAIL: an E3 ubiquitin ligase that inhibits cytokine gene transcription is expressed in anergic $CD4^+$ T cells. Immunity 18: 535-547.
3. Soares, L., et al. 2004. Two isoforms of otubain 1 regulate T cell anergy via GRAIL. Nat. Immunol. 5: 45-54.
4. Su, L., et al. 2006. A novel E3 ubiquitin ligase substrate screen identifies Rho guanine dissociation inhibitor as a substrate of gene related to anergy in lymphocytes. J. Immunol. 177: 7559-7566.
5. MacKenzie, D.A., et al. 2007. GRAIL is upregulated in $CD4^+$ $CD25^+$ T regulatory cells and is sufficient for conversion of T cells to a regulatory phenotype. J. Biol. Chem. 282: 9696-9702.
6. Kostianovsky, A.M., et al. 2007. Upregulation of gene related to anergy in lymphocytes is associated with Notch-mediated human T cell suppression. J. Immunol. 178: 6158-6163.

CHROMOSOMAL LOCATION

Genetic locus: RNF128 (human) mapping to Xq22.3; Rnf128 (mouse) mapping to X F1.

SOURCE

GRAIL (E-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of GRAIL of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-132301 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

GRAIL (E-13) is recommended for detection of GRAIL isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

GRAIL (E-13) is also recommended for detection of GRAIL isoforms 1 and 2 in additional species, including equine and bovine.

Suitable for use as control antibody for GRAIL siRNA (h): sc-90884, GRAIL siRNA (m): sc-145748, GRAIL shRNA Plasmid (h): sc-90884-SH, GRAIL shRNA Plasmid (m): sc-145748-SH, GRAIL shRNA (h) Lentiviral Particles: sc-90884-V and GRAIL shRNA (m) Lentiviral Particles: sc-145748-V.

Molecular Weight of GRAIL: 46 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.