SANTA CRUZ BIOTECHNOLOGY, INC.

GRWD1 (B-7): sc-514125

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The Power to Question

BACKGROUND

GRWD1 (glutamate-rich WD repeat-containing protein 1), also known as WDR28 or KIAA1942, is a 446 amino acid protein that contains five WD repeats. Localizing to the nucleus, GRWD1 is a member of the 50S and 80S preribosomal complexes and may play a role in ribosome biogenesis. The gene encoding GRWD1 maps to human chromosome 19q13.33 and mouse chromosome 7 B4. Consisting of around 63 million bases with over 1,400 genes, human chromosome 19 makes up over 2% of human genomic DNA. Chromosome 19 includes a diversity of interesting genes and is recognized for having the greatest gene density of the human chromosomes. It is the genetic home for a number of immunoglobulin superfamily members including the killer cell and leukocyte Ig-like receptors, a number of ICAMs, the CEACAM and PSG families, and Fcα receptors. Peutz-Jeghers syndrome, spinocerebellar ataxia type 6, the stroke disorder CADASIL, hypercholesterolemia and Insulin-dependent diabetes have been linked to chromosome 19.

REFERENCES

1. Teglund, S., et al. 1994. The pregnancy-specific glycoprotein (PSG) gene cluster on human chromosome 19: fine structure of the 11 PSG genes and identification of 6 new genes forming a third subgroup within the carcinoembryonic antigen (CEA) family. Genomics 23: 669-684.
2. Wang, L., et al. 2000. C-CAM1, a candidate tumor suppressor gene, is abnormally expressed in primary lung cancers. Clin. Cancer Res. 6: 2988-2993.
3. Trowsdale, J., et al. 2001. The genomic context of natural killer receptor extended gene families. Immunol. Rev. 181: 20-38.
4. Le Meur, N., et al. 2004. Complete germline deletion of the STK11 gene in a family with Peutz-Jeghers syndrome. Eur. J. Hum. Genet. 12: 415-418.
5. Leeb, T., et al. 2004. Comparative human-mouse-rat sequence analysis of the ICAM gene cluster on HSA 19p13.2 and a 185-kb porcine region from SSC 2q. Gene 343: 239-244.
6. Gratenstein, K., et al. 2005. The WD-repeat protein GRWD1: potential roles in myeloid differentiation and ribosome biogenesis. Genomics 85: 762-773.
7. Barrow, A.D., et al. 2008. The extended human leukocyte receptor complex: diverse ways of modulating immune responses. Immunol. Rev. 224: 98-123.

CHROMOSOMAL LOCATION

Genetic locus: GRWD1 (human) mapping to 19q13.33; Grwd1 (mouse) mapping to 7 B4.

SOURCE

GRWD1 (B-7) is a mouse monoclonal antibody raised against amino acids 139-318 mapping within an internal region of GRWD1 of human origin.

PRODUCT

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

APPLICATIONS

GRWD1 (B-7) is recommended for detection of GRWD1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for GRWD1 siRNA (h): sc-97614, GRWD1 siRNA (m): sc-145787, GRWD1 shRNA Plasmid (h): sc-97614-SH, GRWD1 shRNA Plasmid (m): sc-145787-SH, GRWD1 shRNA (h) Lentiviral Particles: sc-97614-V and GRWD1 shRNA (m) Lentiviral Particles: sc-145787-V.

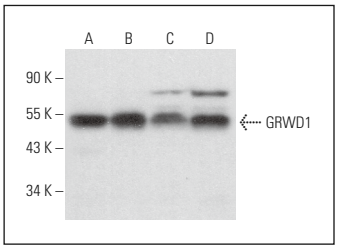
Molecular Weight of GRWD1: 49 kDa.

Positive Controls: T98G cell lysate: sc-2294, Caki-1 cell lysate: sc-2224 or C6 whole cell lysate: sc-364373.

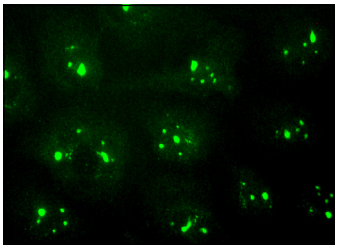
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



GRWD1 (B-7): sc-514125. Western blot analysis of GRWD1 expression in T98G (**A**), Caki-1 (**B**) and C6 (**C**) whole cell lysates and KNRK nuclear extract (**D**).



GRWD1 (B-7): sc-514125. Immunofluorescence staining of methanol-fixed HeLa cells showing nucleolar localization.

SELECT PRODUCT CITATIONS

1. Wei, S., et al. 2021. GRWD1-WDR5-MLL2 epigenetic complex mediates H3K4me3 mark and is essential for Kaposi's sarcoma-associated herpesvirus-induced cellular transformation. mBio 12: e0343121.

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.