SANTA CRUZ BIOTECHNOLOGY, INC.

WDR12 (B-21): sc-102156

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The Power to Question

BACKGROUND

WD repeat containing protein 12 (WDR12), also known as YTM1 homolog, is a 423 amino acid protein that localizes to the nucleus. WD-repeats are motifs that are found in a variety of proteins and are characterized by a conserved core of 40-60 amino acids that commonly form a tertiary propeller structure. While proteins that contain WD-repeats participate in a wide range of cellular functions, they are generally involved in regulatory mechanisms concerning chromatin assembly, cell cycle control, signal transduction, RNA processing, apoptosis and vesicular trafficking. WDR12, which contains seven WD-repeats, has been characterized to form a stable complex with pescadillo and BOP1. This complex, named PeBoW, plays a critical role in the mammalian ribosome biogenesis pathway. A mutation in the gene encoding WDR12 leads to an inhibition of ribosomal RNA (rRNA) processing and triggers p53-dependent cell cycle arrest. Pescadillo, BOP1 and WDR12 expression has been shown to be upregulated by the oncogenic transcription factor c-Myc.

REFERENCES

1. Di Benedetto, A.J., et al. 2001. Cloning and molecular characterization of a novel gene encoding a WD-repeat protein expressed in restricted areas of adult rat brain. Gene 271: 21-31.
2. Nal, B., et al. 2002. Wdr12, a mouse gene encoding a novel WD-repeat protein with a notchless-like amino-terminal domain. Genomics 79: 77-86.
3. Hölzel, M., et al. 2005. Mammalian WDR12 is a novel member of the Pes1-BOP1 complex and is required for ribosome biogenesis and cell proliferation. J. Cell Biol. 170: 367-378.
4. Miles, T.D., et al. 2005. Ytm1, Nop7, and Erb1 form a complex necessary for maturation of yeast 66S preribosomes. Mol. Cell. Biol. 25: 10419-10432.
5. Grimm, T., et al. 2006. Dominant-negative Pes1 mutants inhibit ribosomal RNA processing and cell proliferation via incorporation into the PeBoW-complex. Nucleic Acids Res. 34: 3030-3043.
6. Rohrmoser, M., et al. 2007. Interdependence of Pes1, BOP1, and WDR12 controls nucleolar localization and assembly of the PeBoW complex required for maturation of the 60S ribosomal subunit. Mol. Cell. Biol. 27: 3682-3694.

CHROMOSOMAL LOCATION

Genetic locus: WDR12 (human) mapping to 2q33.1; Wdr12 (mouse) mapping to 1 C2.

SOURCE

WDR12 (B-21) is a purified rabbit polyclonal antibody raised against WDR12 of human origin.

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.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and <0.02% sucrose.

APPLICATIONS

WDR12 (B-21) is recommended for detection of WDR12 of mouse, rat, human and dog origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for WDR12 siRNA (h): sc-94873, WDR12 siRNA (m): sc-155257, WDR12 shRNA Plasmid (h): sc-94873-SH, WDR12 shRNA Plasmid (m): sc-155257-SH, WDR12 shRNA (h) Lentiviral Particles: sc-94873-V and WDR12 shRNA (m) Lentiviral Particles: sc-155257-V.

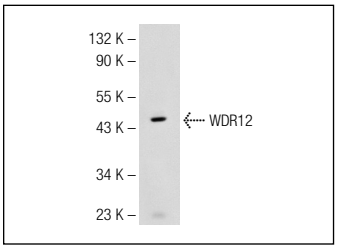
Molecular Weight of WDR12: 48 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



WDR12 (B-21): sc-102156. Western blot analysis of WDR12 expression in Jurkat whole cell lysate.

PROTOCOLS

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