

# WDR4 (321.9): sc-100894

## BACKGROUND

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. WDR4 (WD-repeat-containing protein 4), also known as TRM82, is a 412 amino acid protein that contains two WD-repeats. Expressed as multiple isoforms due to alternative splicing events, WDR4 forms a complex with METTL1 (methyltransferase like 1) that is necessary for the 7-methylguanosine modification of tRNA. Defects in the gene encoding WDR4 may be associated with the development of Down syndrome, a chromosomal disorder characterized by deformed physical features and mental retardation.

## REFERENCES

1. van der Voorn, L. and Ploegh, H.L. 1992. The WD-40 repeat. *FEBS Lett.* 307: 131-134.
2. Neer, E.J., et al. 1994. The ancient regulatory-protein family of WD-repeat proteins. *Nature* 371: 297-300.
3. Garcia-Higuera, I., et al. 1996. Folding of proteins with WD-repeats: comparison of six members of the WD-repeat superfamily to the G protein  $\beta$  subunit. *Biochemistry* 35: 13985-13994.
4. Garcia-Higuera, I., et al. 1998. Folding a WD-repeat propeller. Role of highly conserved aspartic acid residues in the G protein  $\beta$  subunit and Sec13. *J. Biol. Chem.* 273: 9041-9049.
5. Smith, T.F., et al. 1999. The WD-repeat: a common architecture for diverse functions. *Trends Biochem. Sci.* 24: 181-185.
6. Michaud, J., et al. 2000. Isolation and characterization of a human chromosome 21q22.3 gene (WDR4) and its mouse homologue that code for a WD-repeat protein. *Genomics* 68: 71-79.
7. Li, D. and Roberts, R. 2001. WD-repeat proteins: structure characteristics, biological function, and their involvement in human diseases. *Cell. Mol. Life Sci.* 58: 2085-2097.

## CHROMOSOMAL LOCATION

Genetic locus: WDR4 (human) mapping to 21q22.3.

## SOURCE

WDR4 (321.9) is a mouse monoclonal antibody raised against recombinant WDR4 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>1</sub> kappa light chain 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

WDR4 (321.9) is recommended for detection of WDR4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 WDR4 siRNA (h): sc-91529, WDR4 shRNA Plasmid (h): sc-91529-SH and WDR4 shRNA (h) Lentiviral Particles: sc-91529-V.

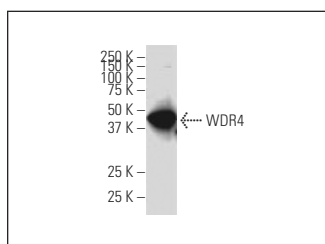
Molecular Weight of WDR4: 45 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, HeLa whole cell lysate: sc-2200 or A549 cell lysate: sc-2413.

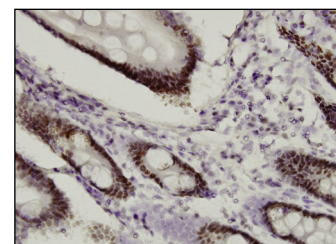
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



WDR4 (321.9): sc-100894. Western blot analysis of WDR4 expression in HeLa nuclear extract.



WDR4 (321.9): sc-100894. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human small intestine tissue showing nuclear localization.

## SELECT PRODUCT CITATIONS

1. Zhang, L.S., et al. 2019. Transcriptome-wide mapping of internal N7-methylguanosine methylome in mammalian mRNA. *Mol. Cell pii: S1097-2765(19)30265-5*.

## RESEARCH USE

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