

WDR48 (E-4): sc-514473



The Power to Question

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, which 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 involving signal transduction, apoptosis, transcriptional regulation and cell cycle control. WD repeats serve as sites for protein-protein interaction and some seem to mediate the assembly of protein complexes. With eight WD repeats, WDR48 (WD repeat-containing protein 48), also known as USP1-associated factor 1 and p80, is a 677 amino acid protein that functions to regulate deubiquitinating complexes via activation of USP1, USP12 and USP46. WDR48 enhances deubiquitination by increasing catalytic turnover without increasing the affinity of deubiquitinating enzymes for the substrate. WDR48 is ubiquitously expressed and is mainly localized to the cytoplasm. There are five isoforms of WDR48 that are expressed as a result of alternative splicing events.

REFERENCES

1. Neer, E.J., et al. 1994. The ancient regulatory-protein family of WD-repeat proteins. *Nature* 371: 297-300.
2. Smith, T.F., et al. 1999. The WD repeat: a common architecture for diverse functions. *Trends Biochem. Sci.* 24: 181-185.
3. Yu, L., et al. 2000. Thirty-plus functional families from a single motif. *Protein Sci.* 9: 2470-2476.

CHROMOSOMAL LOCATION

Genetic locus: WDR48 (human) mapping to 3p22.2; Wdr48 (mouse) mapping to 9 F4.

SOURCE

WDR48 (E-4) is a mouse monoclonal antibody raised against amino acids 530-640 mapping near the C-terminus of WDR48 of human origin.

PRODUCT

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

WDR48 (E-4) is available conjugated to agarose (sc-514473 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514473 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514473 PE), fluorescein (sc-514473 FITC), Alexa Fluor® 488 (sc-514473 AF488), Alexa Fluor® 546 (sc-514473 AF546), Alexa Fluor® 594 (sc-514473 AF594) or Alexa Fluor® 647 (sc-514473 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514473 AF680) or Alexa Fluor® 790 (sc-514473 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

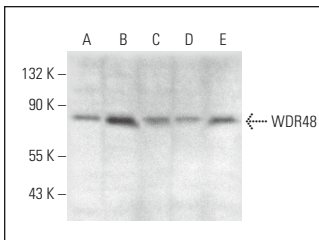
WDR48 (E-4) is recommended for detection of WDR48 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for WDR48 siRNA (h): sc-77917, WDR48 siRNA (m): sc-155290, WDR48 shRNA Plasmid (h): sc-77917-SH, WDR48 shRNA Plasmid (m): sc-155290-SH, WDR48 shRNA (h) Lentiviral Particles: sc-77917-V and WDR48 shRNA (m) Lentiviral Particles: sc-155290-V.

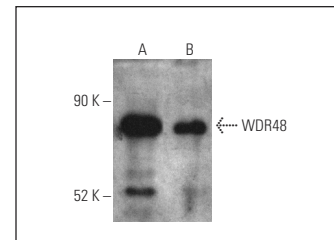
Molecular Weight of WDR48: 76 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, T98G cell lysate: sc-2294 or Y79 cell lysate: sc-2240.

DATA



WDR48 (E-4): sc-514473. Western blot analysis of WDR48 expression in T98G (A), Y79 (B), RT-4 (C), U-251-MG (D) and HEK293 (E) whole cell lysates.



WDR48 (E-4) HRP: sc-514473 HRP. Direct western blot analysis of WDR48 expression in K-562 (A) and T98G (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ohsugi, T., et al. 2019. Anti-apoptotic effect by the suppression of IRF1 as a downstream of Wnt/β-catenin signaling in colorectal cancer cells. *Oncogene* 38: 6051-6064.
2. Park, S.H., et al. 2019. ATAD5 promotes replication restart by regulating Rad51 and PCNA in response to replication stress. *Nat. Commun.* 10: 5718.
3. Kang, M.S., et al. 2019. PCNA unloading is negatively regulated by BET proteins. *Cell Rep.* 29: 4632-4645.e5.
4. Goldbraikh, D., et al. 2020. USP1 deubiquitinates Akt to inhibit PI3K-Akt-FoxO signaling in muscle during prolonged starvation. *EMBO Rep.* 21: e48791.
5. Kim, S., et al. 2020. ATAD5 restricts R-loop formation through PCNA unloading and RNA helicase maintenance at the replication fork. *Nucleic Acids Res.* 48: 7218-7238.
6. Tyagi, A., et al. 2022. CRISPR/Cas9-based genome-wide screening for deubiquitinase subfamily identifies USP1 regulating MAST1-driven cisplatin-resistance in cancer cells. *Theranostics* 12: 5949-5970.

RESEARCH USE

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