

POLDIP2 (G-10): sc-398591

BACKGROUND

POLDIP2 (polymerase (DNA-directed), δ interacting protein 2), also known as POLD4 or PDIP38, is a 368 amino acid protein that localizes to the nucleus and contains one apaG domain. Interacting with PCNA and DNA pol δ 2, POLDIP2 is thought to influence DNA replication and cellular proliferation events, specifically by inhibiting the activity of DNA pol subunits. Human POLDIP2 shares 95% sequence identity with its mouse counterpart, suggesting a conserved role between species. The gene encoding POLDIP2 maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Tumor suppressor p53 is necessary for maintenance of cellular genetic integrity by moderating cell fate through DNA repair versus cell death. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome. Like p53, BRCA1 is directly involved in DNA repair, though specifically it is recognized as a genetic determinant of early onset breast cancer and predisposition to cancers of the ovary, colon, prostate gland and fallopian tubes.

REFERENCES

- Hartley, J.L., et al. 2000. DNA cloning using *in vitro* site-specific recombination. *Genome Res.* 10: 1788-1795.
- Liu, L., et al. 2003. Identification of a novel protein, PDIP38, that interacts with the p50 subunit of DNA polymerase δ and proliferating cell nuclear antigen. *J. Biol. Chem.* 278: 10041-10047.
- Xie, B., et al. 2005. Further characterization of human DNA polymerase δ interacting protein 38. *J. Biol. Chem.* 280: 22375-22384.

CHROMOSOMAL LOCATION

Genetic locus: POLDIP2 (human) mapping to 17q11.2; Poldip2 (mouse) mapping to 11 B5.

SOURCE

POLDIP2 (G-10) is a mouse monoclonal antibody raised against amino acids 61-360 mapping within an internal region of POLDIP2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-398591 X, 200 μ g/0.1 ml.

POLDIP2 (G-10) is available conjugated to agarose (sc-398591 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398591 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398591 PE), fluorescein (sc-398591 FITC), Alexa Fluor[®] 488 (sc-398591 AF488), Alexa Fluor[®] 546 (sc-398591 AF546), Alexa Fluor[®] 594 (sc-398591 AF594) or Alexa Fluor[®] 647 (sc-398591 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-398591 AF680) or Alexa Fluor[®] 790 (sc-398591 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

POLDIP2 (G-10) is recommended for detection of POLDIP2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 POLDIP2 siRNA (h): sc-76190, POLDIP2 siRNA (m): sc-76191, POLDIP2 shRNA Plasmid (h): sc-76190-SH, POLDIP2 shRNA Plasmid (m): sc-76191-SH, POLDIP2 shRNA (h) Lentiviral Particles: sc-76190-V and POLDIP2 shRNA (m) Lentiviral Particles: sc-76191-V.

POLDIP2 (G-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

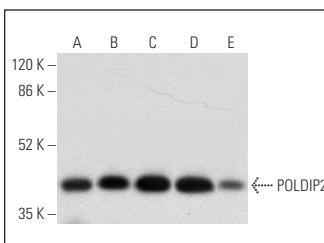
Molecular Weight of POLDIP2: 38 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, HeLa whole cell lysate: sc-2200 or JAR cell lysate: sc-2276.

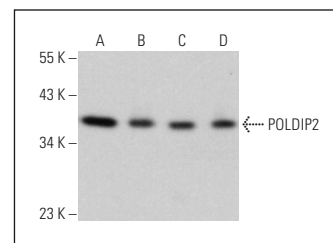
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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 κ BP-FITC: sc-516140 or m-IgG κ 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



POLDIP2 (G-10): sc-398591. Western blot analysis of POLDIP2 expression in JAR (A), MCF7 (B), OVCAR-3 (C) and HeLa (D) whole cell lysates and SW480 nuclear extract (E).



POLDIP2 (G-10): sc-398591. Western blot analysis of POLDIP2 expression in K-562 (A), SK-BR-3 (B), NIH/3T3 (C) and 3T3-L1 (D) whole cell lysates.

STORAGE

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

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