

# PLAC1 (G-1): sc-365919

## BACKGROUND

Placenta-specific proteins (PLACs) are X-linked proteins. The PLAC1 gene maps to a region of the X chromosome known to be important for placental growth. PLAC1 shows placenta-specific expression and is considered a marker for placental development. PLAC1 may play a role establishing the mother-fetus interface and is expressed exclusively by cells of trophoblastic lineage. PLAC1 expression is upregulated during trophoblast differentiation and its expression is regulated by peptide growth factors. It is detectable in maternal blood, but rapidly disappears after delivery.

## CHROMOSOMAL LOCATION

Genetic locus: PLAC1 (human) mapping to Xq26.3; Plac1 (mouse) mapping to X A5.

## SOURCE

PLAC1 (G-1) is a mouse monoclonal antibody raised against amino acids 65-212 mapping at the C-terminus of PLAC1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PLAC1 (G-1) is available conjugated to agarose (sc-365919 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365919 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365919 PE), fluorescein (sc-365919 FITC), Alexa Fluor<sup>®</sup> 488 (sc-365919 AF488), Alexa Fluor<sup>®</sup> 546 (sc-365919 AF546), Alexa Fluor<sup>®</sup> 594 (sc-365919 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-365919 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-365919 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-365919 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

## RESEARCH USE

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

## APPLICATIONS

PLAC1 (G-1) is recommended for detection of PLAC1 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), 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 PLAC1 siRNA (h): sc-61363, PLAC1 siRNA (m): sc-61364, PLAC1 shRNA Plasmid (h): sc-61363-SH, PLAC1 shRNA Plasmid (m): sc-61364-SH, PLAC1 shRNA (h) Lentiviral Particles: sc-61363-V and PLAC1 shRNA (m) Lentiviral Particles: sc-61364-V.

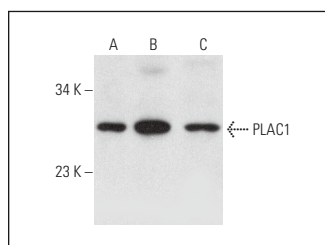
Molecular Weight of PLAC1: 30 kDa.

Positive Controls: RBL-1 whole cell lysate: sc-364790, RAW 264.7 whole cell lysate: sc-2211 or KNRK whole cell lysate: sc-2214.

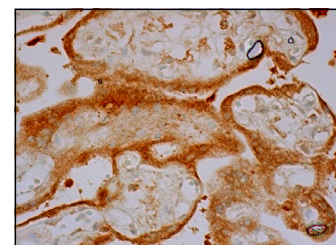
## RECOMMENDED SUPPORT REAGENTS

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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



PLAC1 (G-1): sc-365919. Western blot analysis of PLAC1 expression in RAW 264.7 (A), KNRK (B) and RBL-1 (C) whole cell lysates.



PLAC1 (G-1): sc-365919. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells.

## SELECT PRODUCT CITATIONS

- Yuan, H., et al. 2018. PLAC1 as a serum biomarker for breast cancer. *PLoS ONE* 13: e0192106.
- Hayashi, R., et al. 2020. Expression of placenta-specific 1 and its potential for eliciting anti-tumor helper T-cell responses in head and neck squamous cell carcinoma. *Oncoimmunology* 10: 1856545.
- Chen, Y., et al. 2021. PLAC1 affects cell to cell communication by interacting with the desmosome complex. *Placenta* 110: 39-45.
- Liu, D., et al. 2021. Placenta-specific protein 1 promotes cell proliferation via the Akt/GSK-3β/cyclin D1 signaling pathway in gastric cancer. *IUBMB Life* 73: 1131-1141.
- Chen, R., et al. 2021. PLAC1 is an independent predictor of poor survival, and promotes cell proliferation and invasion in cervical cancer. *Mol. Med. Rep.* 24: 800.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.