

## Rtl1 (V-13): sc-163324

### BACKGROUND

Placenta is necessary for fetal development by exchanging nutrition, gas and waste between fetal and maternal blood. Defects in placental proteins may cause several developmental disorders such as intrauterine growth retardation. Rtl1 (retrotransposon-like 1), also known as Mar1, MART1 or PEG11 (paternally expressed-11), is a 1,359 amino acid multi-pass membrane protein that is highly expressed in both the fetus and placenta. Rtl1 plays an essential role in the maintenance of fetal capillaries and in development of placenta. Decreased and overexpression of Rtl1 is thought to contribute to the upd(14)pat-like and upd(14)mat-like phenotypes, respectively. Paternal and maternal uniparental disomy for chromosome 14 (upd(14)pat and upd(14)mat) result in a unique phenotype characterized by facial abnormality, a small, bell-shaped thorax and abdominal wall defects, and upd(14)mat leads to pre- and postnatal growth failure and early onset of puberty.

### REFERENCES

- Seitz, H., et al. 2003. Imprinted microRNA genes transcribed antisense to a reciprocally imprinted retrotransposon-like gene. *Nat. Genet.* 34: 261-262.
- Cox, H., et al. 2004. Maternal UPD(14) in the patient with a normal karyotype: clinical report and a systematic search for cases in samples sent for testing for Prader-Willi syndrome. *Am. J. Med. Genet. A* 127A: 21-25.
- Davis, E., et al. 2005. RNAi-mediated allelic trans-interaction at the imprinted Rtl1/Peg11 locus. *Curr. Biol.* 15: 743-749.
- Kagami, M., et al. 2008. Deletions and epimutations affecting the human 14q32.2 imprinted region in individuals with paternal and maternal upd(14)-like phenotypes. *Nat. Genet.* 40: 237-242.
- Sekita, Y., et al. 2008. Role of retrotransposon-derived imprinted gene, Rtl1, in the feto-maternal interface of mouse placenta. *Nat. Genet.* 40: 243-248.
- Zechner, U., et al. 2009. Epimutation at human chromosome 14q32.2 in a boy with a upd(14)mat-like clinical phenotype. *Clin. Genet.* 75: 251-258.

### CHROMOSOMAL LOCATION

Genetic locus: RTL1 (human) mapping to 14q32.2; Rtl1 (mouse) mapping to 12 F1.

### SOURCE

Rtl1 (V-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Rtl1 of human origin.

### PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-163324 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-163324 X, 200 µg/0.1 ml.

### APPLICATIONS

Rtl1 (V-13) is recommended for detection of Rtl1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Rtl1 (V-13) is also recommended for detection of Rtl1 in additional species, including bovine and porcine.

Suitable for use as control antibody for Rtl1 siRNA (h): sc-92287, Rtl1 siRNA (m): sc-153166, Rtl1 shRNA Plasmid (h): sc-92287-SH, Rtl1 shRNA Plasmid (m): sc-153166-SH, Rtl1 shRNA (h) Lentiviral Particles: sc-92287-V and Rtl1 shRNA (m) Lentiviral Particles: sc-153166-V.

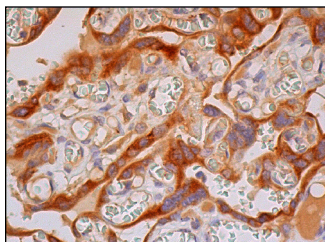
Rtl1 (V-13) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Rtl1: 155 kDa.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

### DATA



Rtl1 (V-13): sc-163324. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic cells.

### 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.