

syncytin (K-12): sc-30640

BACKGROUND

Syncytin, also known as ERVWE1 (endogenous retroviral family W, env(C7), member 1) is a human endogenous retrovirus family W (HERV-W) envelope protein that is expressed in placental syncytiotrophoblast and is involved in fusion of the cytotrophoblast cells to form the multinucleated syncytial layer of the placenta. Syncytin is an envelope protein after *in vitro* transcription-translation and undergoes glycosylation. It is predicted to undergo post-translational cleavage into a surface (SU) subunit and a transmembrane (TM) subunit. Syncytin is similar to other retroviral envelope proteins in possessing a furin cleavage site that separates the surface (SU) and transmembrane (TM) proteins, which form a heterodimer. Northern blot analysis has been shown to detect 8.0-, 3.1-, and 1.3-kb HERV-W transcripts only in placenta. Syncytin expression can increase three-fold in astrocytes and glial cells within acute demyelinating lesions of patients with multiple sclerosis compared to controls.

REFERENCES

- Blond, J.L., et al. 1999. Molecular characterization and placental expression of HERV-W, a new human endogenous retrovirus family. *J. Virol.* 73: 1175-1185.
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- Lee, X., et al. 2001. Downregulation of placental syncytin expression and abnormal protein localization in pre-eclampsia. *Placenta* 22: 808-812.
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- Smallwood, A., et al. 2003. Temporal regulation of the expression of syncytin (HERV-W), maternally imprinted PEG10, and SGCE in human placenta. *Biol. Reprod.* 69: 286-293.
- Potgens, A.J., et al. 2004. Syncytin: the major regulator of trophoblast fusion? Recent developments and hypotheses on its action. *Hum. Reprod. Update* 10: 487-496.
- Antony, J.M., et al. 2004. Human endogenous retrovirus glycoprotein-mediated induction of redox reactants causes oligodendrocyte death and demyelination. *Nat. Neurosci.* 7: 1088-1095.

CHROMOSOMAL LOCATION

Genetic locus: ERVW-1 (human) mapping to 7q21.2.

SOURCE

syncytin (K-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of syncytin 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-30640 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

syncytin (K-12) is recommended for detection of syncytin of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for syncytin siRNA (h): sc-60054, syncytin shRNA Plasmid (h): sc-60054-SH and syncytin shRNA (h) Lentiviral Particles: sc-60054-V.

Molecular Weight of syncytin: 60 kDa.

Molecular Weight of glycosylated syncytin: 80 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.

SELECT PRODUCT CITATIONS

- Holder, B.S., et al. 2012. Syncytin 1 in the human placenta. *Placenta* 33: 460-466.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.