

EFO1 (H-300): sc-135051

BACKGROUND

EFO1 (establishment factor-like protein 1), also known as ESCO1 (establishment of cohesion 1 homolog1) or ESO1, is a member of the acetyltransferase family (GCN5 subfamily). It is a ubiquitously expressed nuclear protein that plays an important role in sister chromatid cohesion. At its C-terminus, EFO1 contains an H2C2 zinc-finger motif and an acetyltransferase domain that exhibits acetyltransferase activity *in vivo*. Its N-terminus, containing two domains that are similar to δ and β type linker histone proteins, is essential for EFO1 association with chromosomes. EFO1 is responsible for coupling cohesion and DNA replication processes thereby ensuring proper pairing of sister chromatids. EFO1 is phosphorylated during mitosis and this may act to regulate EFO1 activity. Due to alternative splicing events, three EFO1 isoforms exist.

REFERENCES

1. Tanaka, K., et al. 2001. Establishment and maintenance of sister chromatid cohesion in fission yeast by a unique mechanism. *EMBO J.* 20: 5779-5790.
2. Nagase, T., et al. 2001. Prediction of the coding sequences of unidentified human genes. XXI. The complete sequences of 60 new cDNA clones from brain which code for large proteins. *DNA Res.* 8: 179-187.
3. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609674: World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Bellows, A.M., et al. 2003. Human EFO1 exhibits acetyltransferase activity and is a unique combination of linker histone and CTF7p/ECO1P chromatid cohesion establishment domains. *Nucleic Acids Res.* 31: 6334-6343.
5. Hou, F. and Zou, H. 2005. Two human orthologues of ECO1/CTF7 acetyltransferases are both required for proper sister-chromatid cohesion. *Mol. Biol. Cell* 16: 3908-3918.
6. Unal, E., Heidinguer-Pauli, J.M. and Koshland, D. 2007. DNA double-strand breaks trigger genome-wide sister-chromatid cohesion through ECO1 (CTF7). *Science* 317: 245-248.

CHROMOSOMAL LOCATION

Genetic locus: ESCO1 (human) mapping to 18q11.2; Esco1 (mouse) mapping to 18 A1.

SOURCE

EFO1 (H-300) is a rabbit polyclonal antibody raised against amino acids 121-420 mapping within an internal region of EFO1 of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

EFO1 (H-300) is recommended for detection of EFO1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 EFO1 siRNA (h): sc-62257, EFO1 siRNA (m): sc-62258, EFO1 shRNA Plasmid (h): sc-62257-SH, EFO1 shRNA Plasmid (m): sc-62258-SH, EFO1 shRNA (h) Lentiviral Particles: sc-62257-V and EFO1 shRNA (m) Lentiviral Particles: sc-62258-V.

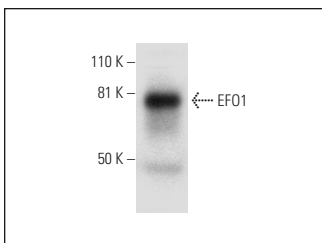
Molecular Weight of EFO1: 95 kDa.

Positive Controls: human heart extract: sc-363763.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

DATA



EFO1 (H-300): sc-135051. Western blot analysis of EFO1 expression in human heart tissue extract.

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.