

ORC4 (C-15): sc-19726

BACKGROUND

The initiation of DNA replication is a multi-step process that depends on the formation of pre-replication complexes, which trigger initiation. Among the proteins required for establishing these complexes are the origin recognition complex (ORC) proteins. ORC proteins bind specifically to origins of replication where they serve as scaffold for the assembly of additional initiation factors. Human ORC subunits 1-6 are expressed in the nucleus of proliferating cells and tissues, such as the testis. ORC1 and ORC2 are both expressed at equivalent concentrations throughout the cell cycle; however, only ORC2 remains stably bound to chromatin. ORC4 and ORC6 are also expressed constantly throughout the cell cycle. ORC2, ORC3, ORC4 and ORC5 form a core complex upon which the ORC6 and ORC1 assemble. The formation of this core complex suggests ORC proteins play a crucial role in the G₁-S transition in mammalian cells.

REFERENCES

1. Quintana, D.G., Hou, Z., Thome, K.C., Hendricks, M., Saha, P. and Dutta, A. 1997. Identification of the HsORC4, a member of the human origin of replication recognition complex. *J. Biol. Chem.* 272: 28247-28251.
2. Mendez, J. and Stillman, B. 2000. Chromatin association of human origin recognition complex, Cdc6, and minichromosome maintenance proteins during the cell cycle: assembly of prereplication complexes in late mitosis. *Mol. Cell. Biol.* 20: 8602-8612.
3. Dhar, S.K. and Dutta, A. 2000. Identification and characterization of the human ORC6 homolog. *J. Biol. Chem.* 275: 34983-34988.
4. Thome, K.C., Dhar, S.K., Quintana, D.G., Delmolino, L., Shahsafaei, A. and Dutta, A. 2000. Subsets of human origin recognition complex (ORC) subunits are expressed in non-proliferating cells and associate with non-ORC proteins. *J. Biol. Chem.* 275: 35233-35241.

CHROMOSOMAL LOCATION

Genetic locus: ORC4L (human) mapping to 2q22.3; Orc4l (mouse) mapping to 2 C1.1.

SOURCE

ORC4 (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ORC4 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-19726 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-19726 X, 200 µg/0.1 ml.

STORAGE

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

APPLICATIONS

ORC4 (C-15) is recommended for detection of ORC4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ORC4 (C-15) is also recommended for detection of ORC4 in additional species, including canine.

Suitable for use as control antibody for ORC4 siRNA (h): sc-38157, ORC4 siRNA (m): sc-38158, ORC4 shRNA Plasmid (h): sc-38157-SH, ORC4 shRNA Plasmid (m): sc-38158-SH, ORC4 shRNA (h) Lentiviral Particles: sc-38157-V and ORC4 shRNA (m) Lentiviral Particles: sc-38158-V.

ORC4 (L-15) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

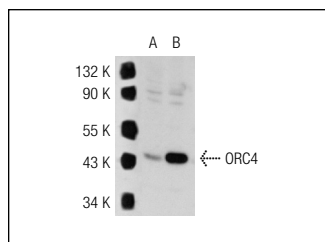
Molecular Weight of ORC4: 45 kDa.

Positive Controls: ORC4 (h): 293T Lysate: sc-113520.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



ORC4 (C-15): sc-19726. Western blot analysis of ORC4 expression in non-transfected: sc-117752 (A) and human ORC4 transfected: sc-113520 (B) 293T whole cell lysates.

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.