SANTA CRUZ BIOTECHNOLOGY, INC.

ORC5 (H-300): sc-20635

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 as 45 kDa and 30 kDa proteins, respectively. 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 G_1-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.
5. Kreitz, S., Ritzi, M., Baack, M., and Knippers, R. 2000. The human origin-recognition-complex protein 1 dissociates from chromatin during S phase in HeLa cells. J. Biol. Chem. 276: 6337-6342.

CHROMOSOMAL LOCATION

Genetic locus: ORC5L (human) mapping to 7q22.1; Orc5l (mouse) mapping to 5 A3.

SOURCE

ORC5 (H-300) is a rabbit polyclonal antibody raised against amino acids 136-435 of ORC5 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.

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-20635 X, 200 µg/0.1 ml.

RESEARCH USE

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

APPLICATIONS

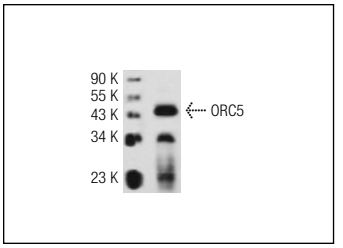
ORC5 (H-300) is recommended for detection of ORC5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ORC5 (H-300) is also recommended for detection of ORC5 in additional species, including equine, canine, bovine and avian.

ORC5 (H-300) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Positive Controls: mouse brain extract: sc-2253.

DATA



ORC5 (H-300): sc-20635. Western blot analysis of ORC5 expression in mouse brain tissue extract.

SELECT PRODUCT CITATIONS

1. Di Paola, D., et al. 2010. Increased origin activity in transformed versus normal cells: identification of novel protein players involved in DNA replication and cellular transformation. Nucleic Acids Res. 38: 2314-2331.

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 or our catalog for detailed protocols and support products.