

ORC6 (2679C2b): sc-81646

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 ORC6 and ORC1 assemble. The formation of this core complex suggests that 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. 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.
4. Kreitz, S., Ritz, 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.
5. Natale, D.A., Li, C.J., Sun, W.H. and DePamphilis, M.L. 2000. Selective instability of Orc1 protein accounts for the absence of functional origin recognition complexes during the M-G₁ transition in mammals. *EMBO J.* 19: 2728-2738.

CHROMOSOMAL LOCATION

Genetic locus: ORC6L (human) mapping to 16q11.2.

SOURCE

ORC6 (2679C2b) is a mouse monoclonal antibody raised against a recombinant protein corresponding to the C-terminal region of ORC6 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

STORAGE

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

APPLICATIONS

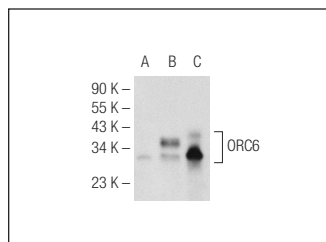
ORC6 (2679C2b) is recommended for detection of ORC6 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for ORC6 siRNA (h): sc-38161, ORC6 shRNA Plasmid (h): sc-38161-SH and ORC6 shRNA (h) Lentiviral Particles: sc-38161-V.

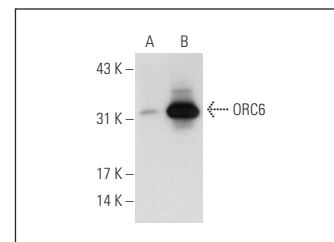
Molecular Weight of ORC6: 30 kDa.

Positive Controls: ORC6 (h2): 293T Lysate: sc-116694, HeLa whole cell lysate: sc-2200 or U-2 OS cell lysate: sc-2295.

DATA



ORC6 (2679C2b): sc-81646. Western blot analysis of ORC6 expression in non-transfected 293: sc-110760 (A), human ORC6 transfected 293: sc-129354 (B) and HeLa (C) whole cell lysates.



ORC6 (2679C2b): sc-81646. Western blot analysis of ORC6 expression in non-transfected: sc-117752 (A) and human ORC6 transfected: sc-116694 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Nguyen, H., Ortega, M.A., Ko, M., Marh, J. and Ward, W.S. 2015. ORC4 surrounds extruded chromatin in female meiosis. *J. Cell. Biochem.* 116: 778-786.

RESEARCH USE

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

PROTOCOLS

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