

ORC3 (C-12): sc-374231

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., et al. 1997. Identification of the HsORC4, a member of the human origin of replication recognition complex. *J. Biol. Chem.* 272: 28247-28251.
2. Mendez, J., et al. 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., et al. 2000. Identification and characterization of the human ORC6 homolog. *J. Biol. Chem.* 275: 34983-34988.
4. Thome, K.C., et al. 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. Natale, D.A., et al. 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: ORC3 (human) mapping to 6q15; Orc3 (mouse) mapping to 4 A5.

SOURCE

ORC3 (C-12) is a mouse monoclonal antibody raised against amino acids 617-707 mapping at the C-terminus of ORC3 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ORC3 (C-12) is available conjugated to agarose (sc-374231 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374231 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374231 PE), fluorescein (sc-374231 FITC), Alexa Fluor® 488 (sc-374231 AF488), Alexa Fluor® 546 (sc-374231 AF546), Alexa Fluor® 594 (sc-374231 AF594) or Alexa Fluor® 647 (sc-374231 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374231 AF680) or Alexa Fluor® 790 (sc-374231 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

ORC3 (C-12) is recommended for detection of ORC3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for ORC3 siRNA (h): sc-38155, ORC3 siRNA (m): sc-38156, ORC3 shRNA Plasmid (h): sc-38155-SH, ORC3 shRNA Plasmid (m): sc-38156-SH, ORC3 shRNA (h) Lentiviral Particles: sc-38155-V and ORC3 shRNA (m) Lentiviral Particles: sc-38156-V.

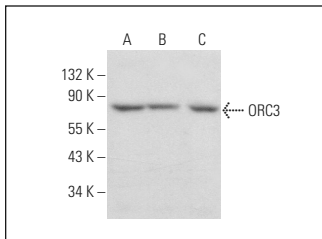
Molecular Weight of ORC3: 80 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or HUV-EC-C whole cell lysate: sc-364180.

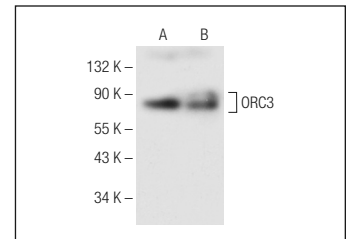
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



ORC3 (C-12): sc-374231. Western blot analysis of ORC3 expression in HeLa (A), A549 (B) and HUV-EC-C (C) whole cell lysates.



ORC3 (C-12): sc-374231. Western blot analysis of ORC3 expression in HeLa (A) and Jurkat (B) whole cell lysates.

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 for detailed protocols and support products.

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