SANTA CRUZ BIOTECHNOLOGY, INC.

ORC2 (C-18): sc-13238

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. 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 G_1-S transition in mammalian cells.

CHROMOSOMAL LOCATION

Genetic locus: ORC2L (human) mapping to 2q33.1; Orc2l (mouse) mapping to 1 C1.3.

SOURCE

ORC2 (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of ORC2 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-13238 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-13238 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ORC2 (C-18) is recommended for detection of ORC2 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).

ORC2 (C-18) is also recommended for detection of ORC2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for ORC2 siRNA (h): sc-38153, ORC2 siRNA (m): sc-38154, ORC2 shRNA Plasmid (h): sc-38153-SH, ORC2 shRNA Plasmid (m): sc-38154-SH, ORC2 shRNA (h) Lentiviral Particles: sc-38153-V and ORC2 shRNA (m) Lentiviral Particles: sc-38154-V.

ORC2 (C-18) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

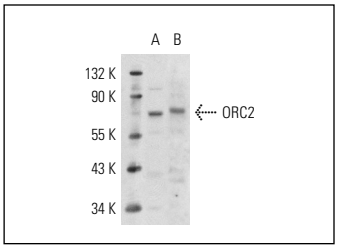
Molecular Weight of ORC2: 70 kDa.

Positive Controls: PC-3 nuclear extract: sc-2152, HeLa whole cell lysate: sc-2200 or ALL-SIL whole cell lysate: sc-364356.

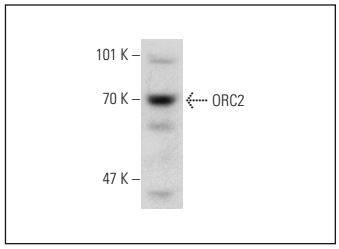
STORAGE

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

DATA



ORC2 (C-18): sc-13238. Western blot analysis of ORC2 expression in HeLa (**A**) and ALL-SIL (**B**) whole cell lysates.



ORC2 (C-18): sc-13238. Western blot analysis of ORC2 expression in PC-3 nuclear extract.

SELECT PRODUCT CITATIONS

1. Lei, M., et al. 2002. Two MCM3 mutations affect different steps in the initiation of DNA replication. J. Biol. Chem. 277: 30824-30831.
2. Niida, H., et al. 2007. Specific role of Chk1 phosphorylations in cell survival and checkpoint activation. Mol. Cell. Biol. 27: 2572-2581.
3. Larrieu, D., et al. 2009. ING2 controls the progression of DNA replication forks to maintain genome stability. EMBO Rep. 10: 1168-1174.
4. Sansam, C.L., et al. 2010. A vertebrate gene, ticrr, is an essential checkpoint and replication regulator. Genes Dev. 24: 183-194.
5. Niida, H., et al. 2010. Essential role of Tip60-dependent recruitment of ribonucleotide reductase at DNA damage sites in DNA repair during G_1 phase. Genes Dev. 24: 333-338.
6. 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.
7. Lubelsky, Y., et al. 2011. Pre-replication complex proteins assemble at regions of low nucleosome occupancy within the Chinese hamster dihydrofolate reductase initiation zone. Nucleic Acids Res. 39: 3141-3155.
8. Ortega, M.A., et al. 2012. Unique pattern of ORC2 and MCM7 localization during DNA replication licensing in the mouse zygote. Biol. Reprod. 87: 62.

RESEARCH USE

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