

ORC2 (3G6): sc-32734



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 G₁-S transition in mammalian cells.

CHROMOSOMAL LOCATION

Genetic locus: ORC2L (human) mapping to 2q33.1.

SOURCE

ORC2 (3G6) is a rat monoclonal antibody raised against ORC2, human origin recognition complex (hsORC).

PRODUCT

Each vial contains 200 µg IgG_{2a} 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-32734 X, 200 µg/0.1 ml.

ORC2 (3G6) is available conjugated to agarose (sc-32734 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-32734 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32734 PE), fluorescein (sc-32734 FITC), Alexa Fluor® 488 (sc-32734 AF488), Alexa Fluor® 546 (sc-32734 AF546), Alexa Fluor® 594 (sc-32734 AF594) or Alexa Fluor® 647 (sc-32734 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-32734 AF680) or Alexa Fluor® 790 (sc-32734 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

ORC2 (3G6) is recommended for detection of ORC2 of human origin by Western Blotting (starting dilution 1:100, 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 ORC2 siRNA (h): sc-38153, ORC2 shRNA Plasmid (h): sc-38153-SH and ORC2 shRNA (h) Lentiviral Particles: sc-38153-V.

ORC2 (3G6) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

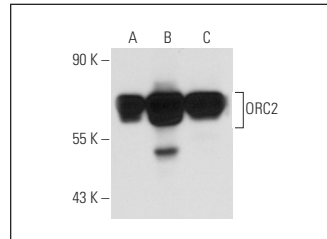
Molecular Weight of ORC2: 70 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, ORC2 (h): 293T Lysate: sc-113531 or U-2 OS cell lysate: sc-2295.

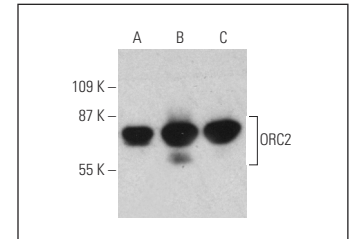
STORAGE

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

DATA



ORC2 (3G6): sc-32734. Western blot analysis of ORC2 expression in non-transfected 293T: sc-117752 (A), human ORC2 transfected 293T: sc-113531 (B) and HeLa (C) whole cell lysates.



ORC2 (3G6) HRP: sc-32734 HRP. Direct western blot analysis of ORC2 expression in U-2 OS (A), HEK293 (B) and HeLa (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Verma, S.C., et al. 2006. Latency-associated nuclear antigen (LANA) of Kaposi's sarcoma-associated herpes-virus interacts with origin recognition complexes at the LANA binding sequence within the terminal repeats. *J. Virol.* 80: 2243-2256.
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- 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.
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- Abdelbaqi, K., et al. 2013. Ku protein levels, localization and association to replication origins in different stages of breast tumor progression. *J. Cancer* 4: 358-370.
- Lee, T., et al. 2014. Suppression of the DHX9 helicase induces premature senescence in human diploid fibroblasts in a p53-dependent manner. *J. Biol. Chem.* 289: 22798-22814.
- Passerini, V., et al. 2016. The presence of extra chromosomes leads to genomic instability. *Nat. Commun.* 7: 10754.
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- Shibata, E., et al. 2016. Two subunits of human ORC are dispensable for DNA replication and proliferation. *Elife* 5: e19084.

RESEARCH USE

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