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#4731 Store at -20C

ORC1 (7A7) Rat mAb

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Hm	Endogenous	100, 95 (Mouse)	Rat IgG1	#Q13415	4998

Product Usage Information

Application

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

ORC1 (7A7) Rat mAb recognizes endogenous levels of total ORC1 protein. The antibody does not cross-react with other ORC subunits.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a His6-tagged recombinant human ORC1 protein.

Background

The origin recognition complex (ORC) is a highly conserved heterohexameric protein complex that associates with DNA at or near initiation of DNA replication sites. All six ORC subunits are essential for initiation of DNA replication (1-3), and ORC may be involved in regulation of gene expression in response to stress (4). ORC binding to DNA permits the ordered binding of other proteins such as cdc6 and MCMs to form pre-replication complexes (Pre-RCs). Pre-RCs form between telophase and early G1 phase of the cell cycle and are inactivated at the onset of DNA synthesis, allowing coordinated regulation of DNA replication and cell division (5). Modification of one or more of the six ORC subunits may be responsible for its inactivation during S phase, but the chromatin binding behavior of the ORC subunits during the cell division cycle is still under investigation (6-7).

Background References

1. Machida, Y.J. et al. (2005) *J. Biol. Chem.* 280, 27624-27630.
2. Baltin, J. et al. (2006) *J. Biol. Chem.* 281, 12428-12435.
3. Gibson, D.G. et al. (2006) *Genes Cells* 11, 557-573.
4. Ramachandran, L. et al. (2006) *FEMS Yeast Res.* 6, 763-776.
5. Rowles, A. and Blow, J.J. (1997) *Curr. Opin. Genet. Dev.* 7, 152-157.
6. DePamphilis, M.L. (2003) *Gene* 310, 1-15.
7. McNairn, A.J. et al. (2005) *Exp. Cell. Res.* 308, 345-356.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Hm:** Hamster

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