

#4731 Store at -20C

ORC1 (7A7) Rat mAb



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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB	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	<ol style="list-style-type: none"> 1. Machida, Y.J. et al. (2005) <i>J. Biol. Chem.</i> 280, 27624-27630. 2. Baltin, J. et al. (2006) <i>J. Biol. Chem.</i> 281, 12428-12435. 3. Gibson, D.G. et al. (2006) <i>Genes Cells</i> 11, 557-573. 4. Ramachandran, L. et al. (2006) <i>FEMS Yeast Res.</i> 6, 763-776. 5. Rowles, A. and Blow, J.J. (1997) <i>Curr. Opin. Genet. Dev.</i> 7, 152-157. 6. DePamphilis, M.L. (2003) <i>Gene</i> 310, 1-15. 7. McNairn, A.J. et al. (2005) <i>Exp. Cell. Res.</i> 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	WB: Western Blotting
Cross-Reactivity Key	H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse GP: Guinea Pig Rab: rabbit All: all species expected
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