

#13129 Store at -20°C

Phospho-FoxO3a (Ser253) (D18H8) Rabbit mAb



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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB	H M R Mk	Endogenous	97	Rabbit IgG	#O43524	2309

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	Phospho-FoxO3a (Ser253) (D18H8) Rabbit mAb detects endogenous levels of FoxO3a only when phosphorylated at Ser253. This antibody may cross-react with FoxO1 when overexpressed and phosphorylated at Ser251 or FoxO4 when overexpressed and phosphorylated at Ser197.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser253 of human FoxO3a protein.	
Background	<p>The Forkhead family of transcription factors is involved in tumorigenesis of rhabdomyosarcoma and acute leukemias (1-3). Within the family, three members (FoxO1, FoxO4, and FoxO3a) have sequence similarity to the nematode orthologue DAF-16, which mediates signaling via a pathway involving IGFR1, PI3K, and Akt (4-6). Active forkhead members act as tumor suppressors by promoting cell cycle arrest and apoptosis. Increased expression of any FoxO member results in the activation of the cell cycle inhibitor p27 Kip1. Forkhead transcription factors also play a part in TGF-β-mediated upregulation of p21 Cip1, a process negatively regulated through PI3K (7). Increased proliferation results when forkhead transcription factors are inactivated through phosphorylation by Akt at Thr24, Ser256, and Ser319, which results in nuclear export and inhibition of transcription factor activity (8). Forkhead transcription factors can also be inhibited by the deacetylase sirtuin (SirT1) (9).</p> <p>FoxO3a is phosphorylated by Akt at several sites, including Thr32, Ser253 and Ser315. FoxO3a associates with 14-3-3 proteins following Akt phosphorylation and is retained in the cytoplasm. In the absence of survival factors, FoxO3a is dephosphorylated, translocates to the nucleus, and triggers cell death by a Fas ligand-dependent mechanism (7).</p>	
Background References	<ol style="list-style-type: none"> Anderson, M.J. et al. (1998) <i>Genomics</i> 47, 187-99. Galili, N. et al. (1993) <i>Nat Genet</i> 5, 230-5. Borkhardt, A. et al. (1997) <i>Oncogene</i> 14, 195-202. Nakae, J. et al. (1999) <i>J Biol Chem</i> 274, 15982-5. Rena, G. et al. (1999) <i>J Biol Chem</i> 274, 17179-83. Guo, S. et al. (1999) <i>J Biol Chem</i> 274, 17184-92. Seoane, J. et al. (2004) <i>Cell</i> 117, 211-23. Arden, K.C. (2004) <i>Mol Cell</i> 14, 416-8. Yang, Y. et al. (2005) <i>EMBO J</i> 24, 1021-32. 	

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 nonfat dry milk, 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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