

#97635 Store at -20C

FoxO1 (D8T1S) Mouse mAb**Cell Signaling**
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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP, IHC-P	H M R Mk	Endogenous	78 to 82	Mouse IgG1	#Q12778	2308

Product Usage Information**Application**

Western Blotting
Immunoprecipitation
Immunohistochemistry (Paraffin)

Dilution

1:1000
1:50
1:800

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

FoxO1 (D8T1S) Mouse mAb recognizes endogenous levels of total FoxO1 protein. The antibody does not detect exogenously expressed family members FoxO3a or FoxO4.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro360 of human FoxO1 protein.

Background

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 IGF1R, 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).

Background References

1. Anderson, M.J. et al. (1998) *Genomics* 47, 187-99.
2. Galili, N. et al. (1993) *Nat Genet* 5, 230-5.
3. Borkhardt, A. et al. (1997) *Oncogene* 14, 195-202.
4. Nakae, J. et al. (1999) *J Biol Chem* 274, 15982-5.
5. Rena, G. et al. (1999) *J Biol Chem* 274, 17179-83.
6. Guo, S. et al. (1999) *J Biol Chem* 274, 17184-92.
7. Seoane, J. et al. (2004) *Cell* 117, 211-23.
8. Arden, K.C. (2004) *Mol Cell* 14, 416-8.
9. Yang, Y. et al. (2005) *EMBO J* 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 **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin)

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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