

#2880 Store at -20°C

# FoxO1 (C29H4) Rabbit mAb

✓ 100 µl  
(10 western blots)



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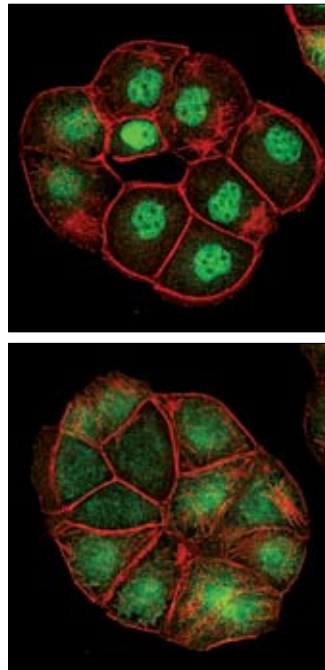
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IHC-P, IF-IC Endogenous	H, M, R, Mk	78–82 kDa	Rabbit IgG**

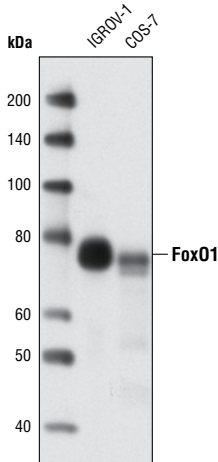
**Background:** The Forkhead family of transcription factors is involved in tumorigenesis of rhabdomyosarcoma and acute leukemias (1-3). Within the family, three members (FoxO1, FoxO4 and FoxO3a) have sequence similarity to the nematode orthologue DAF-16, which mediates signaling via a pathway involving 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 p27Kip1. Forkhead transcription factors also play a part in TGF-β-mediated upregulation of p21CIP1, 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).

**Specificity/Sensitivity:** FoxO1 (C29H4) Rabbit mAb detects endogenous levels of total FoxO1 protein. The antibody does not detect the exogenously expressed family members FoxO3a or FoxO4.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a GST fusion protein corresponding to carboxy-terminal residues of human FoxO1.



Confocal immunofluorescent analysis of IGROV-1 cells, LY294002-treated (upper) or insulin-treated (lower), using FoxO1 (C29H4) Rabbit mAb (green). Actin filaments have been labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



Western blot analysis of extracts from IGROV-1 and COS-7 cells using FoxO1 (C29H4) Rabbit mAb.

Entrez-Gene ID # 2308  
Swiss-Prot Acc. # Q12778

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

\*Species cross-reactivity is determined by western blot.

\*\*Anti-rabbit secondary antibodies must be used to detect this antibody.

**Recommended Antibody Dilutions:**

Western blotting 1:1000  
Immunohistochemistry (Paraffin) 1:100†

Unmasking buffer: Citrate  
Antibody diluent: SignalStain® Antibody Diluent #8112  
Detection reagent: SignalStain® Boost (HRP, Rabbit) #8114

†Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.

Immunofluorescence (IF-IC) 1:100

For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).

Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.

**Background References:**

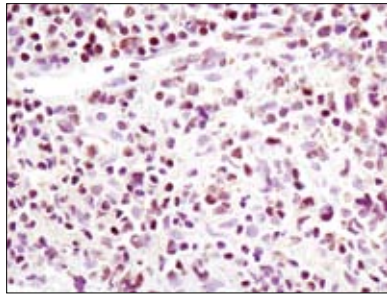
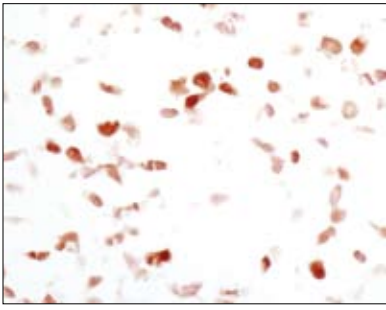
- (1) Anderson, M.J. et al. (1998) *Genomics* 47, 187–199.
- (2) Galili, N. et al. (1993) *Nat. Genet.* 5, 230–235.
- (3) Borkhardt, A. et al. (1997) *Oncogene* 14, 195–202.
- (4) Nakae, J. et al. (1999) *J. Biol. Chem.* 274, 15982–15985.
- (5) Rena, G. et al. (1999) *J. Biol. Chem.* 274, 17179–17183.
- (6) Guo, S. et al. (1999) *J. Biol. Chem.* 274, 17184–17192.
- (7) Seoane, J. et al. (2004) *Cell* 117, 211–223.
- (8) Arden, K.C. (2004) *Mol. Cell* 14, 416–418.
- (9) Yang, Y. et al. (2005) *EMBO J.* 24, 1021–103

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

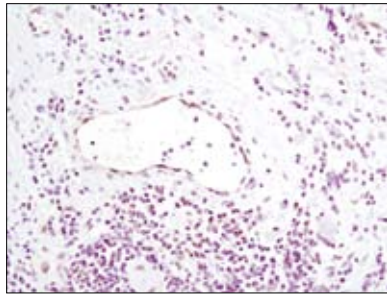
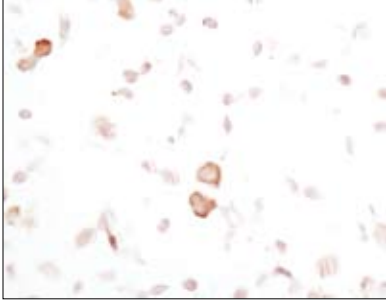
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**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide  
**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey 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 All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.

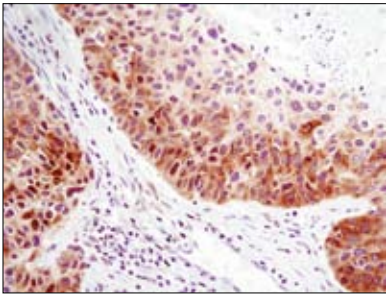


*Immunohistochemical analysis of paraffin-embedded human lymphoma using FoxO1 (C29H4) Rabbit mAb.*

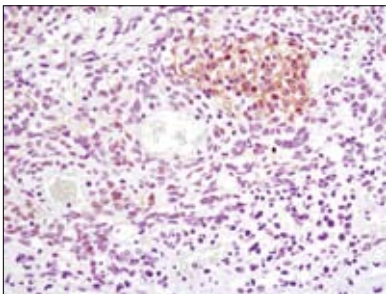


*Immunohistochemical analysis of paraffin-embedded IGROV-1 cell pellets, LY294002-treated (upper) or insulin-treated (lower), using FoxO1 (C29H4) Rabbit mAb. Note the cytoplasmic localization of FoxO1 upon Akt activation.*

*Immunohistochemical analysis of paraffin-embedded human colon using FoxO1 (C29H4) Rabbit mAb.*



*Immunohistochemical analysis of paraffin-embedded human lung carcinoma using FoxO1 (C29H4) Rabbit mAb.*



*Immunohistochemical analysis of paraffin-embedded SKOV-3 xenograft using FoxO1 (C29H4) Rabbit mAb.*