

**#2486** Store at -20°C

## Phospho-FoxO1 (Ser319) Antibody


**Cell Signaling**  
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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications: WB	Reactivity: H	Sensitivity: Transfected Only	MW (kDa): 120 (GFP- FoxO1)	Source: Rabbit	UniProt ID: #Q12778	Entrez-Gene Id: 2308
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### 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 and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

### Specificity / Sensitivity

Phospho-FoxO1 (Ser319) Antibody detects exogenous levels of FoxO1 only when phosphorylated at serine 319. The antibody does not cross-reacts with FoxO1 phosphorylated at other sites nor with other phosphorylated family members.

### Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser319 of human FoxO1. Antibodies are purified by protein A and peptide affinity chromatography.

### 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

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- Borkhardt, A. et al. (1997) *Oncogene* 14, 195-202.
- Nakae, J. et al. (1999) *J Biol Chem* 274, 15982-5.
- Rena, G. et al. (1999) *J Biol Chem* 274, 17179-83.
- Guo, S. et al. (1999) *J Biol Chem* 274, 17184-92.
- Seoane, J. et al. (2004) *Cell* 117, 211-23.
- Arden, K.C. (2004) *Mol Cell* 14, 416-8.
- 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 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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