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#14592**FoxO3a (D19A7) Rabbit mAb (PE Conjugate)**
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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
FC-FP	H M R	Endogenous	Rabbit IgG	#O43524	2309

**Product Usage Information****Application**

Flow Cytometry (Fixed/Permeabilized)

**Dilution**

1:50

**Storage**Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. *Do not aliquot the antibodies. Protect from light. Do not freeze.***Specificity/Sensitivity**

FoxO3a (D19A7) Rabbit mAb (PE Conjugate) recognizes endogenous levels of total FoxO3a protein.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with recombinant protein specific to the carboxy terminus of human FoxO3 protein.

**Description**

This Cell Signaling Technology antibody is conjugated to phycoerythrin (PE) and tested in-house for direct flow cytometry analysis in human cells. The antibody is expected to exhibit the same species cross-reactivity as the unconjugated FoxO3a (D19A7) Rabbit mAb #12829.

**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- $\beta$ -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**

- Anderson, M.J. et al. (1998) *Genomics* 47, 187-99.
- Galili, N. et al. (1993) *Nat Genet* 5, 230-5.
- 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).

**Applications Key****FC-FP:** Flow Cytometry (Fixed/Permeabilized)**Cross-Reactivity Key****H:** Human **M:** Mouse **R:** Rat**Trademarks and Patents**

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