

Rabbit Anti-FOXO1/Cy5 Conjugated antibody

SL2537R-Cy5

Product Name	Anti-FOXO1/Cy5
Chinese Name	Cy5 标记的叉头蛋白 O1 抗体
Alias	Forkhead box protein O1; Afxh; AI876417; FKHR; Fkhr1; Foxo1a; Forkhead; FKH 1; FKH1; FKH1; FKHR; FKHR; Forkhead (Drosophila) homolog 1 (rhabdomyosarcoma); Forkhead (Drosophila) homolog 1 (rhabdomyosarcoma); Forkhead box O1; Forkhead box protein O1; Forkhead box protein O1A; Forkhead in rhabdomyosarcoma; Forkhead, Drosophila, homolog of, in rhabdomyosarcoma; FOXO1; FOXO1; FOXO1_HUMAN; FOXO1A.
Research Area	Tumour immunology transcriptional regulatory factor
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Human,Rat(predicted:Mouse,Chicken,Dog,Pig,Cow,Horse,Rabbit) Flow-Cyt=1ug/test,IF=1:100-500
Applications	not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight	70kDa
Form	Lyophilized or Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human FOXO1 (201-300aa)
Lsotype	IgG
Purification	affinity purified by Protein A
Storage Buffer	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
Storage	
Product Detail	background: This gene belongs to the forkhead family of transcription factors which are characterized by a distinct forkhead domain. The specific function of this gene

has not yet been determined; however, it may play a role in myogenic growth and differentiation. Translocation of this gene with PAX3 has been associated with alveolar rhabdomyosarcoma. [provided by RefSeq].

Function:

Transcription factor which acts as a regulator of cell responses to oxidative stress. In the presence of KIRT1, mediates down-regulation of cyclin D1 and up-regulation of CDKN1B levels which are required for cell transition from proliferative growth to quiescence. Triggers death of postmitotic neurons when phosphorylated by CDK1. Activates transcription of PMAIP1.

Subunit:

Interacts with LRPPRC. Interacts with SIRT1 and this interaction requires the presence of KRIT1. Interacts with NLK. Binds to CDK1 and 14-3-3 proteins.

Subcellular Location:

Cytoplasm. Nucleus. Note=Shuttles between cytoplasm and nucleus. Translocates to the nucleus upon oxidative stress induced phosphorylation at Ser-212 by STK4/MST1. Translocates to the nucleus upon phosphorylation of Thr-24, Ser-256 and Ser-322 by SGK1.

Tissue Specificity:

Ubiquitous.

Post-translational modifications:

Phosphorylated by AKT1; insulin-induced. Phosphorylated by NLK, which inhibits transcriptional activity and promotes nuclear export. IGF1 rapidly induces phosphorylation of Ser-256, Thr-24, and Ser-319. Phosphorylation of Ser-256 decreases DNA-binding activity and promotes the phosphorylation of Thr-24, and Ser-319, permitting phosphorylation of Ser-322 and Ser-325, probably by CK1, leading to nuclear exclusion and loss of function. Phosphorylation of Ser-329 is independent of IGF1 and leads to reduced function. Phosphorylated upon DNA damage, probably by ATM or ATR. Phosphorylation of Ser-249 by CDK1 disrupts 14-3-3 proteins binding and thereby promotes FOXO1 nuclear accumulation and subsequent transcription activation and cell death. Phosphorylated by STK4/MST1 on Ser-212 upon oxidative stress. Phosphorylated on Thr-24, Ser-256 and Ser-322 by SGK1 resulting in its translocation from the nucleus to the cytoplasm.

DISEASE:

Defects in FOXO1 are a cause of rhabdomyosarcoma type 2 (RMS2) [MIM:268220]. It is a form of rhabdomyosarcoma, a highly malignant tumor of striated muscle derived from primitive mesenchymal cells and exhibiting differentiation along rhabdomyoblastic lines. Rhabdomyosarcoma is one of

the most frequently occurring soft tissue sarcomas and the most common in children. It occurs in four forms: alveolar, pleomorphic, embryonal and botryoidal rhabdomyosarcomas. Note=Chromosomal aberrations involving FOXO1 are found in rhabdomyosarcoma. Translocation (2;13)(q35;q14) with PAX3; translocation t(1;13)(p36;q14) with PAX7. The resulting protein is a transcriptional activator.

Similarity:

Contains 1 fork-head DNA-binding domain.

Database links:

[Entrez Gene: 2308](#) Human

[Entrez Gene: 56458](#) Mouse

[Entrez Gene: 84482](#) Rat

[Omim: 136533](#) Human

[SwissProt: Q12778](#) Human

[SwissProt: Q9R1E0](#) Mouse

[SwissProt: G3V7R4](#) Rat

[Unigene: 370666](#) Human

[Unigene: 29891](#) Mouse

[Unigene: 116108](#) Rat

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

FoxO 家族蛋白是一类转录因子, 通过结合到下游基因启动子而激活一系列重要基因来调节细胞的重要生命过程。FoxO1 (叉头蛋白家族 1) 是 FOXO 家族的重要一员, 该蛋白主要调节细胞衰老、细胞周期、代谢及抗 Tumour 的作用。FoxO1 是诱导 Autophagy 的关键蛋白, 其抗癌作用与其诱导自噬功能密切相关。