

## Recombinant Mouse Foxo1 Protein, Myc/DDK-tagged

Cat. No. Foxo1-3077M Lot. No. (See product label)

### SPECIFICATION

<b>Product Overview</b>	Purified recombinant protein of mouse full-length forkhead box O1 (Foxo1), with C-terminal MYC/DDK tag, expressed in HEK293T cells.
<b>Species</b>	Mouse
<b>Source</b>	HEK293
<b>Description</b>	<p>Transcription factor that is the main target of insulin signaling and regulates metabolic homeostasis in response to oxidative stress. Binds to the insulin response element (IRE) with consensus sequence 5'-TT[G/A]TTTTG-3' and the related Daf-16 family binding element (DBE) with consensus sequence 5'-TT[G/A]TTTAC-3'. Activity suppressed by insulin. Main regulator of redox balance and osteoblast numbers and controls bone mass. Orchestrates the endocrine function of the skeleton in regulating glucose metabolism. Also acts as a key regulator of chondrogenic commitment of skeletal progenitor cells in response to lipid availability: when lipids levels are low, translocates to the nucleus and promotes expression of SOX9, which induces chondrogenic commitment and suppresses fatty acid oxidation. Acts synergistically with ATF4 to suppress osteocalcin/BGLAP activity, increasing glucose levels and triggering glucose intolerance and insulin insensitivity. Also suppresses the transcriptional activity of RUNX2, an upstream activator of osteocalcin/BGLAP. In hepatocytes, promotes gluconeogenesis by acting together with PPARGC1A and CEBPA to activate the expression of genes such as IGFBP1, G6PC and PCK1. Important regulator of cell death acting downstream of CDK1, PKB/AKT1 and STK4/MST1. Promotes neural cell death. Mediates insulin action on adipose tissue.</p>

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Regulates the expression of adipogenic genes such as PPARG during preadipocyte differentiation and, adipocyte size and adipose tissue-specific gene expression in response to excessive calorie intake. Regulates the transcriptional activity of GADD45A and repair of nitric oxide-damaged DNA in beta-cells. Required for the autophagic cell death induction in response to starvation or oxidative stress in a transcription-independent manner. Mediates the function of MLIP in cardiomyocytes hypertrophy and cardiac remodeling. Regulates endothelial cell (EC) viability and apoptosis in a PPIA/CYPA-dependent manner via transcription of CCL2 and BCL2L11 which are involved in EC chemotaxis and apoptosis.

<b>Molecular Mass</b>	70 kDa
<b>Purity</b>	> 80% as determined by SDS-PAGE and Coomassie blue staining
<b>Stability</b>	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
<b>Storage</b>	Store at -80 centigrade after receiving vials.
<b>Concentration</b>	>50 µg/mL as determined by microplate BCA method
<b>Storage Buffer</b>	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

## GENE INFORMATION

<b>Gene Name</b>	Foxo1 forkhead box O1 [ <i>Mus musculus</i> (house mouse) ]
<b>Official Symbol</b>	Foxo1
<b>Synonyms</b>	FOXO1; forkhead box O1; forkhead box protein O1; forkhead box O1a; forkhead protein 1; forkhead box protein O1A; forkhead in rhabdomyosarcoma; Afxh; FKHR;

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Fkhr1; Foxo1a; AI876417

**Gene ID** [56458](#)

**mRNA Refseq** [NM\\_019739](#)

**Protein Refseq** [NP\\_062713](#)

**UniProt ID** [Q9R1E0](#)

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