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KD-Validated Anti-FBXO22 Mouse Monoclonal Antibody

Mouse monoclonal antibody
Catalog # AGI2045

Product Information

Application	WB, FC
Primary Accession	Q8NEZ5
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Mouse IgG1
Clone Names	24GB8320
Calculated MW	44508
Gene Name	FBXO22
Aliases	FBXO22; F-Box Protein 22; FBX22; F-Box Only Protein 22; FISTC1; FIST Domain Containing 1; F-Box Protein FBX22p44
Immunogen	Recombinant protein of human FBXO22

Additional Information

Gene ID	26263
Other Names	F-box only protein 22, F-box protein FBX22p44, FBXO22, FBX22

Protein Information

Name	FBXO22
Synonyms	FBX22
Function	Substrate-recognition component of the SCF (SKP1-CUL1-F-box protein)-type E3 ubiquitin ligase complex that is implicated in the control of various cellular processes such as cell cycle control, transcriptional regulation, DNA damage repair, and apoptosis. Promotes the proteasome-dependent degradation of key sarcomeric proteins, such as alpha-actinin (ACTN2) and filamin-C (FLNC), essential for maintenance of normal contractile function. Acts as a key regulator of histone methylation marks namely H3K9 and H3K36 methylation through the regulation of histone demethylase KDM4A protein levels (PubMed:21768309). In complex with KDM4A, also regulates the abundance of TP53 by targeting methylated TP53 for degradation at the late senescent stage (PubMed:26868148). Under oxidative stress, promotes the ubiquitination and degradation of BACH1. Mechanistically, reactive oxygen species (ROS) covalently modify cysteine residues on the bZIP domain of BACH1, leading to its release from chromatin and making it accessible to FBXO22 (PubMed:39504958). Upon amino acid depletion, mediates 'Lys-27'-linked ubiquitination of MTOR and thereby inhibits substrate recruitment to mTORC1 (PubMed:37979583). Also inhibits SARS- CoV-2 replication by inducing NSP5 degradation (PubMed:39223933).

Cellular Location	Cytoplasm. Nucleus. Cytoplasm, myofibril, sarcomere, Z line. Note=Amino acid depletion lead to a time-dependent increase of FBXO22 in the cytoplasm.
Tissue Location	Predominantly expressed in liver, also enriched in cardiac muscle.