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MOTS-C Rabbit Polyclonal Antibody

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Catalog # AP93622

Product Information

Application	IHC
Primary Accession	A0A0C5B5G6
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Calculated MW	2175

Additional Information

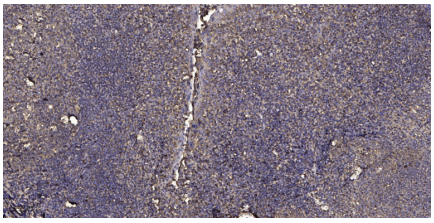
Other Names	Mitochondrial-derived peptide MOTS-c, Mitochondrial open reading frame of the 12S rRNA-c, MT-RNR1 (HGNC:7470)
Dilution	IHC~~1:100~500
Storage Conditions	-20℃

Protein Information

Name	MT-RNR1 (HGNC:7470)
Function	Regulates insulin sensitivity and metabolic homeostasis (PubMed: 25738459, PubMed:33468709). Inhibits the folate cycle, thereby reducing de novo purine biosynthesis which leads to the accumulation of the de novo purine synthesis intermediate 5-aminoimidazole-4- carboxamide (AICAR) and the activation of the metabolic regulator 5'- AMP-activated protein kinase (AMPK) (PubMed:25738459). Protects against age-dependent and diet-induced insulin resistance as well as diet- induced obesity (PubMed:25738459). In response to metabolic stress, translocates to the nucleus where it binds to antioxidant response elements (ARE) present in the promoter regions of a number of genes and plays a role in regulating nuclear gene expression in an NFE2L2-dependent manner and increasing cellular resistance to metabolic stress (PubMed:29983246). Increases mitochondrial respiration and levels of CPT1A and cytokines IL1B, IL6, IL8, IL10 and TNF in senescent cells (PubMed:29886458). Increases activity of the serine/threonine protein kinase complex mTORC2 and reduces activity of the PTEN phosphatase, thus promoting phosphorylation of AKT (PubMed:33554779). This promotes AKT-mediated phosphorylation of transcription factor FOXO1 which reduces FOXO1 activity, leading to reduced levels of MSTN and promotion of skeletal muscle growth (PubMed:33554779). Promotes osteogenic differentiation of bone marrow mesenchymal stem cells via the TGFB/SMAD pathway (PubMed:30468456). Promotes osteoblast proliferation and osteoblast synthesis of type I collagens COL1A1 and COL1A2 via the TGFB/SMAD pathway (PubMed:31081069).

Cellular Location	Secreted. Mitochondrion. Nucleus Note=Translocates to the nucleus in response to metabolic stress in an AMPK-dependent manner.
Tissue Location	Detected in plasma (at protein level) (PubMed:25738459, PubMed:32182209). Also expressed in skeletal muscle (at protein level) (PubMed:32182209).

Images



Immunohistochemical analysis of paraffin-embedded human tonsil. 1, Antibody was diluted at 1:200(4° overnight). 2, Tris-EDTA,pH9.0 was used for antigen retrieval. 3,Secondary antibody was diluted at 1:200(room temperature, 30min).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.