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MORC2 Blocking Peptide (C-term)

Synthetic peptide
Catalog # BP20588c

Specification

MORC2 Blocking Peptide (C-term) - Product Information

Primary Accession Q9Y6X9

MORC2 Blocking Peptide (C-term) - Additional Information

Gene ID 22880

Other Names
MORC family CW-type zinc finger protein 2, Zinc finger CW-type coiled-coil domain protein 1, MORC2, KIAA0852, ZCWCC1

Target/Specificity
The synthetic peptide sequence is selected from aa 848-862 of HUMAN MORC2

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

MORC2 Blocking Peptide (C-term) - Protein Information

Name MORC2 (HGNC:23573)

Synonyms KIAA0852, ZCWCC1

Function
Essential for epigenetic silencing by the HUSH (human silencing hub) complex. Recruited by HUSH to target site in heterochromatin, the ATPase activity and homodimerization are critical for HUSH-mediated silencing (PubMed:28581500, PubMed:29440755, PubMed:32693025). Represses germ cell-related genes and L1 retrotransposons in collaboration with SETDB1 and the HUSH complex, the silencing is dependent of repressive epigenetic modifications, such as H3K9me3 mark. Silencing events often occur within introns of transcriptionally active genes, and lead to the down-regulation of host gene expression (PubMed:29211708). During DNA damage response, regulates chromatin remodeling through ATP hydrolysis. Upon DNA damage, is phosphorylated by PAK1, both colocalize to chromatin and induce H2AX expression.

ATPase activity is required and dependent of phosphorylation by PAK1 and presence of DNA (PubMed:23260667). Recruits histone deacetylases, such as HDAC4, to promoter regions, causing local histone H3 deacetylation and transcriptional repression of genes such as CA9 (PubMed:20225202, PubMed:20110259). Exhibits a cytosolic function in lipogenesis, adipogenic differentiation, and lipid homeostasis by increasing the activity of ACLY, possibly preventing its dephosphorylation (PubMed:24286864).

Cellular Location
Nucleus. Cytoplasm, cytosol Chromosome Nucleus matrix. Note=Mainly located in the nucleus (PubMed:20225202). Upon phosphorylation at Ser-739, recruited to damaged chromatin (PubMed:23260667)

Tissue Location
Highly expressed in smooth muscle, pancreas and testis

MORC2 Blocking Peptide (C-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

MORC2 Blocking Peptide (C-term) - Images

MORC2 Blocking Peptide (C-term) - Background

May act as a transcriptional repressor. Down-regulates CA9 expression.

MORC2 Blocking Peptide (C-term) - References

Nagase T.,et al.DNA Res. 5:355-364(1998).
Collins J.E.,et al.Genome Biol. 5:R84.1-R84.11(2004).
Dunham I.,et al.Nature 402:489-495(1999).
Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.
Bechtel S.,et al.BMC Genomics 8:399-399(2007).