

Recombinant Human MYLK

Cat. No. MYLK-27838TH Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant Fragment from Human Myosin light chain kinase, corresponding to amino acids 1425-1776 and with an N-terminal enzyme tag.
Species	Human
Protein Length	1425-1776 a.a.
Description	<p>This gene, a muscle member of the immunoglobulin gene superfamily, encodes myosin light chain kinase which is a calcium/calmodulin dependent enzyme. This kinase phosphorylates myosin regulatory light chains to facilitate myosin interaction with actin filaments to produce contractile activity. This gene encodes both smooth muscle and nonmuscle isoforms. In addition, using a separate promoter in an intron in the 3' region, it encodes telokin, a small protein identical in sequence to the C-terminus of myosin light chain kinase, that is independently expressed in smooth muscle and functions to stabilize unphosphorylated myosin filaments. A pseudogene is located on the p arm of chromosome 3. Four transcript variants that produce four isoforms of the calcium/calmodulin dependent enzyme have been identified as well as two transcripts that produce two isoforms of telokin. Additional variants have been identified but lack full length transcripts.</p>
Tissue specificity	Smooth muscle and non-muscle isozymes are expressed in a wide variety of adult and fetal tissues and in cultured endothelium with qualitative expression appearing to be neither tissue- nor development-specific. Non-muscle isoform 2 is the dominant splice

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Biological activity	Specific Activity: 200nm/min/mg.
Form	Liquid
Storage buffer	Preservative: None Constituents: 25% Glycerol, 50mM Tris HCl, 150mM Sodium chloride, 0.25mM DTT, 0.1mM EGTA, 0.1mM EDTA, 0.1mM PMSF, pH 7.5
Storage	Shipped on dry ice. Upon delivery aliquot and store at -80oC. Avoid freeze / thaw cycles.
Sequence Similarities	Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. Contains 1 fibronectin type-III domain. Contains 9 Ig-like C2-type (immunoglobulin-like) domains. Contains 1 protein kinase domain.

GENE INFORMATION

Gene Name	MYLK myosin light chain kinase [<i>Homo sapiens</i>]
Official Symbol	MYLK
Synonyms	MYLK; myosin light chain kinase; myosin, light polypeptide kinase; myosin light chain kinase, smooth muscle; MLCK; MLCK1; MYLK1; smMLCK; smooth muscle myosin light chain kinase;
Gene ID	4638
mRNA Refseq	NM_053025
Protein Refseq	NP_444253
MIM	600922

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Uniprot ID	Q15746
Chromosome Location	3q21
Pathway	Aurora B signaling, organism-specific biosystem; Calcium signaling pathway, organism-specific biosystem; Calcium signaling pathway, conserved biosystem; Focal Adhesion, organism-specific biosystem; Focal adhesion, organism-specific biosystem;
Function	ATP binding; actin binding; calmodulin binding; kinase activity; metal ion binding;

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