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Product datasheet for MR205654

Mapk12 (NM_013871) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Mapk12 (NM_013871) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Mapk12
Synonyms:	AW123708; Erk6; P38gamma; Prkm12; Sapk3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)

ORF Nucleotide Sequence:

>MR205654 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGAGCTCCCCGCCACCCGCCCGCAAGGGCTTTTACCGCCAGGAGGTGACCAAAACGGCCTGGGAGGTGC
GCGCCGTGTACCAAGACCTGCAGCCCGTTGGCTCTGGTGCCTATGGTGCAGTGTGCTCTGCAGTAGACAG
CCGCACTGGCAACAAGGTGGCCATCAAGAAGTTGTACCGGCCCTTCCAGTCGGAGCTGTTTGCCAAGCGC
GCCTACAGAGAGTTGCGCCTCCTCAAACACATGCGCCACGAGAACGTCATTGGGCTACTGGATGTGTTCA
CACCTGATGAGTCTCTGGACGACTTCACAGACTTCTACCTGGTGATGCCATTCATGGGCACTGATCTGGG
CAAACTCATGAAGCATGAGACCCTGAGTGAAGACAGAATCCAGTTTCTTGTGTATCAGATGTTGAAGGGG
CTGAAGTATATCCATGCGGCTGGTGTCATCCACAGAGACTTGAAGCCTGGCAACCTGGCTGTGAATGAGG
ACTGTGAGCTGAAGATCCTAGACTTTGGCCTTGCCAGGCAGGCAGACAGTGAGATGACAGGATATGTGGT
AACCCGGTGGTATCGGGCACCAGAGGTCATCTTGAATTGGATGCGCTACACGCAGACAGTGGACATTTGG
TCCGTTGGCTGCATCATGGCGGAGATGATTACTGGGAAGATCCTGTTCAAAGGCAATGACCACCTGGACC
AGCTGAAGGAGATCATGAAGATCACAGGGACGCCCCCTCCTGAGTTTGTTCAGAAGCTACAGAGTGCAGA
GGCCAAGAACTACATGGAAGGCCTCCCTGAGTTAGAAAAGAAGGATTTTGCCTCTGTCCTGACCAACGCA
AGCCCTCAGGCTGTGAATCTCCTGGAAAGGATGCTGGTGCTGGATGCGGAACAGCGGGTGACAGCAGCTG
AGGCGTTAACCCATCCATACTTTGAGTCCCTTCGGGACACTGAGGATGAACCCAAGGCCCAGAAATATGA
CGACTCCTTTGATGATGTAGACCGCACCCTTGAGGAATGGAAGCGTGTGACTTACAAGGAAGTTCTCAGC
TTCAAGCCTCCTAGGCAGCTAGGAGCCAGAGTTCCAAAGGAGACGGCTCTG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

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Protein Sequence:

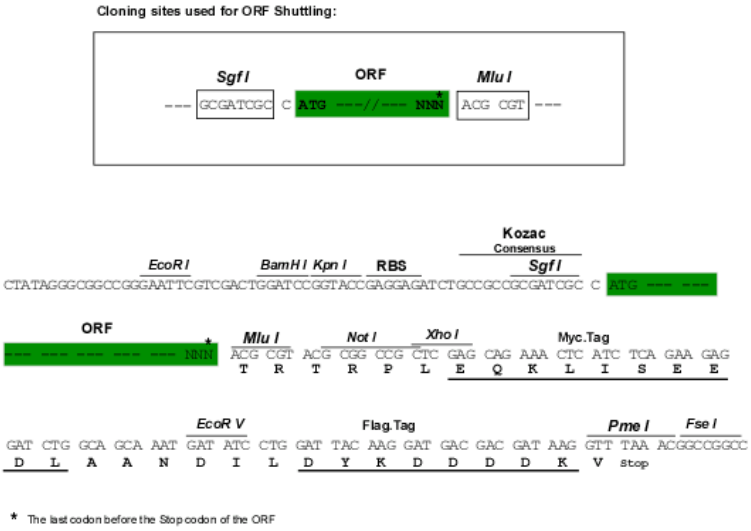
>MR205654 protein sequence
Red=Cloning site Green=Tags(s)

MSSPPPARKGFYRQEVTKTAWEVRAVYQDLQPVGSGAYGAVCSAVDSRTGNKVAIKKLYRPFQSELFAKR
AYRELRLLKHMRHENVIGLLDVFTPDESLDDFTDFYLVMPFMGTDLGKLMKHETLSEDRIQFLVYQMLKG
LKYIHAAGVIHRDLKPGNLAVNEDCELKILDFGLARQADSEMTGYVVTRWYRAPEVILNWMRYTQTVDIW
SVGCIMAEMITGKILFKGNDHLDQLKEIMKITGTPPPEFVQKLQSAEAKNYMEGLPELEKKDFASVLTNA
SPQAVNLLERMLVLDAEQRVTAAEALTHPYFESLRDTEDEPKAQKYDDSFDDVDRTLEEWKRVTYKEVLS
FKPPRQLGARVPKETAL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_013871

ORF Size: 1104 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. More info

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:
1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: NM_013871.3

RefSeq Size: 1905 bp

RefSeq ORF: 1104 bp

Locus ID: 29857

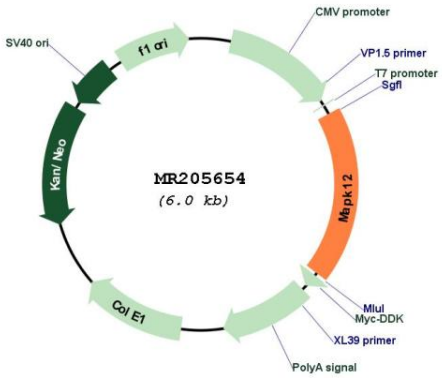
UniProt ID: O08911

Cytogenetics: 15 E3

MW: 42 kDa

Gene Summary: Serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway. MAPK12 is one of the four p38 MAPKs which play an important role in the cascades of cellular responses evoked by extracellular stimuli such as proinflammatory cytokines or physical stress leading to direct activation of transcription factors such as ELK1 and ATF2. Accordingly, p38 MAPKs phosphorylate a broad range of proteins and it has been estimated that they may have approximately 200 to 300 substrates each. Some of the targets are downstream kinases such as MAPKAPK2, which are activated through phosphorylation and further phosphorylate additional targets. Plays a role in myoblast differentiation and also in the down-regulation of cyclin D1 in response to hypoxia in adrenal cells suggesting MAPK12 may inhibit cell proliferation while promoting differentiation. Phosphorylates DLG1. Following osmotic shock, MAPK12 in the cell nucleus increases its association with nuclear DLG1, thereby causing dissociation of DLG1-SFPQ complexes. This function is independent of its catalytic activity and could affect mRNA processing and/or gene transcription to aid cell adaptation to osmolarity changes in the environment. Regulates UV-induced checkpoint signaling and repair of UV-induced DNA damage and G2 arrest after gamma-radiation exposure. MAPK12 is involved in the regulation of SLC2A1 expression and basal glucose uptake in L6 myotubes; and negatively regulates SLC2A4 expression and contraction-mediated glucose uptake in adult skeletal muscle. C-Jun (JUN) phosphorylation is stimulated by MAPK14 and inhibited by MAPK12, leading to a distinct AP-1 regulation. MAPK12 is required for the normal kinetochore localization of PLK1, prevents chromosomal instability and supports mitotic cell viability. MAPK12-signaling is also positively regulating the expansion of transient amplifying myogenic precursor cells during muscle growth and regeneration. [UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR205654