

## Midkine Antibody

Rabbit mAb Catalog # AP90556

## **Product Information**

Application	WB, IHC, IF, ICC, IP, IHF
Primary Accession	<u>P21741</u>
Reactivity	Human
Clonality	Monoclonal
Other Names	MDK;FLJ27379;MK1;NEGF2; Midkine; NEGF2; ARAP;
lsotype	Rabbit IgG
Host	Rabbit
Calculated MW	15585

## **Additional Information**

Dilution Purification Immunogen Description	WB 1:500~1:2000 IHC 1:50~1:200 ICC/IF 1:50~1:200 IP 1:30 Affinity-chromatography A synthesized peptide derived from human Midkine Midkine, or MK, is a heparin-binding molecule involved in the regulation of growth and differentiation during embryogenesis. MK expression is tightly regulated during embryonic development by steroid receptors of the retinoic
Storage Condition and Buffer	acid superfamily. The mature human MK protein is 118 amino acids in length and contains five intrachain disulfide bonds. MK is a non-glycosylated protein that shows greater than 87% identity between human and mouse. Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

## **Protein Information**

Name	MDK ( <u>HGNC:6972</u> )
Synonyms	MK1, NEGF2
Function	Secreted protein that functions as a cytokine and growth factor and mediates its signal through cell-surface proteoglycan and non-proteoglycan receptors (PubMed:10212223, PubMed:10772929, PubMed:12084985, PubMed:12122009, PubMed:12573468, PubMed:15466886, PubMed:18469519, PubMed:24458438). Binds cell-surface proteoglycan receptors via their chondroitin sulfate (CS) groups (PubMed:10212223, PubMed:12084985). Thereby regulates many processes like inflammatory response, cell proliferation, cell adhesion, cell growth, cell survival, tissue regeneration, cell differentiation and cell migration (PubMed:10212223, PubMed:10683378, PubMed:10772929, PubMed:12084985, PubMed:12122009, PubMed:12573468, PubMed:15466886,

<ul> <li>and macrophages recruitment to the sites of inflammation both by direct action by cooperating namely with ITGB2 via LRP1 and by inducing chemokine expression (PubMed):10683378, PubMed:24458438). This inflammation can be accompanied by epithelial cell survival and smooth muscle cell migration after renal and vessel damage, respectively (PubMed:10683378). Secondly, suppresses the development of tolerogenic dendric cells thereby inhibiting the differentiation of regulatory T cells and also promote T cell expansion through NFAT signaling and Th1 cell differentiation (PubMed:2232540). Promotes tissue regeneration after injury or trauma. After heart damage negatively regulates the recruitment of inflammatory cells and mediates cell survival and through activation of anti-apoptotic signaling pathways via MAPKs and AKT pathways through the activation of angiogenesis (by similarity). Also facilitates liver regeneration as well as bone repair by recruiting macrophage at trauma site and by promoting cartilage development by facilitating chondrocyte differentiation (Ry similarity). Plays a role in brain by promoting neural precursor cells survival and growth through interaction with heparan suifate proteoglycans (By similarity). Binds PTPR21 and promotes neuronal migration and embryonic neurons survival (PubMed:1021223). Binds SDC3 or GPC2 cubMed:102084985, PubMed:1768439). Binds chondroitin sulfate E and heparin leading to inhibition of neuronal cell adhesion (PubMed:12064985, PubMed:1768439). Binds LRP1; promotes neuronal survival (PubMed:10212084985, Binds CSPG5 and promotes lengation of oligodendroglial precursor-like cells (By similarity). Also binds ITGA63ITG81 complex; this interaction mediates MDK-induced steolbalas cells migration through PXM</li> <li>Mposphorylation (PubMed:1272429). Binds LRP1; promotes neuronal survival (PubMed:1272429). Binds SING SPG5 and promotes secondates MDK-induced steolbalas cells fugation through pXM</li> <li>Mposphorylation (PubMed:15466886). Binds anaplastic lymp</li></ul>		PubMed: <u>22323540</u> , PubMed: <u>24458438</u> ). Participates in inflammatory
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<ul> <li>expression (PubMed:10683278, PubMed:24458438). This Inflammation can be accompanied by epithelial cell survival and smooth muscle cell migration after renal and vessel damage, respectively (PubMed:10683378). Secondly, suppresses the development of tolerogenic dendric cells thereby inhibiting the differentiation of regulatory T cells and also promote T cell expansion through NFAT signaling and Th1 cell differentiation (PubMed:22323540). Promotes tissue regeneration after injury or trauma. After heart damage negatively regulates the recruitment of inflammatory cells and mediates cell survival through activation of anti-apoptotic signaling pathways via MAPKs and AKT pathways through the activation of angiogenesis (By similarity). Also facilitates liver regeneration as well as bone repair by recruiting macrophage at trauma site and by promoting cartilage development by facilitating chondrocyte differentiation (By similarity). Binds PTPE21 and promotes neuronal sulfate proteoglycans (By similarity). Binds PTPE21 and promotes neuronal migration and embryonic neurons survival (PubMed:10212223). Binds SDC3 or GPC2 and mediates neurite outgrowth and cell adhesion induced by binding with GPC2 (PubMed:1024839). Binds CSPG5 and promotes elongation of oligodendroglial precursor-like cells (By similarity). Also binds ITGA6:ITGB1 complex, this interaction mediates MDK-induced neurite outgrowth (PubMed:15466886, PubMed:1762439). Binds LRP1; promotes neuronal survival (PubMed:15466868, PubMed:1762439). Binds LRP1; promotes neuronal survival (PubMed:15466868, PubMed:1762439). Binds LRP1; promotes neuronal survival (PubMed:15466886), Binds anaplastic lymphoma kinase (ALK) which induced stev less cells mage train through harkses (ALK) which induced stev less cells and the induction of mediates MDK-induced cells tells migration through pTM phosphorylation (PubMed:15466886). Binds anaplastic lymphoma kinase (ALK) which induces ALK activation and subsequent phosphorylation of the insulin receptor substrate (IRS1), follow</li></ul>		
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Western blot analysis of Midkine expression in Midkine Recombinant protein.

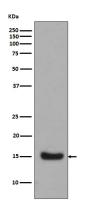


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Immunohistochemical analysis of paraffin-embedded human liver carcinoma, using Midkine Antibody .

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