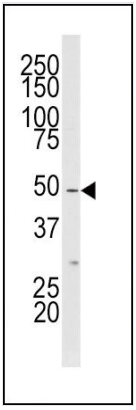
# MLKLAK Antibody – Rabbit Polyclonal

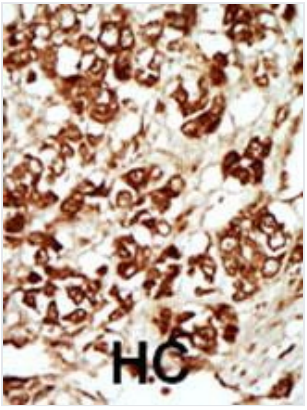
## PRODUCT OVERVIEW

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| **Product Name** | MLKLAK, Polyclonal Antibody |
| **Full Product Name** | MLKLAK (MLK-like Mitogen-activated Protein Triple Kinase, MLTK, AZK, Human Cervical Cancer Suppressor Gene 4 Protein, HCCS4, HCCS-4, Leucine Zipper-and Sterile alpha Motif-containing Kinase, Mitogen-activated Protein Kinase Kinase Kinase MLT, Mixed Lineag |
| **Product Gene Name** | anti-MLKLAK antibody |
| **Product Synonym Names** | EC=2.7.11.25 |
| **Clonality** | Polyclonal |
| **Isotype** | IgG |
| **Host** | Rabbit |
| **Species Reactivity** | Human |
| **Form/Format** | Supplied as a liquid in PBS, pH 7.2. No preservative added. Labeled with Fluorescein Isothiocyanate (FITC). |
| **Purity/Purification** | Purified by Protein G Affinity Chromatography. |
| **Specificity** | Recognizes human MLKLAK. |
| **Preparation and Storage** | Store product at 4 degree C if to be used immediately within two weeks. For long-term storage, aliquot to avoid repeated freezing and thawing and store at -20 degree C. Aliquots are stable at -20 degree C for 12 months after receipt. Dilute required amount only prior to immediate use. Further dilutions can be made in assay buffer. Caution: FITC conjugates are sensitive to light. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap. |
| **Molecular Weight** | 35,468 Da |
| **OMIM** | 609479 |
| **3D Structure** | ModBase 3D Structure for Q9NYL2 |
| **Immunogen** | Synthetic peptide selected from the center region of human MLKLAK (KLH). |
| **Conjugate** | FITC |
| **Note** | Preservative Free |
| **Special Handling** | Light sensitive |
| **Product Categories/Family for anti-MLKLAK antibody** | Antibodies; Protein Kinases |
| **Applications Tested/Suitable for anti-MLKLAK antibody** | Immunohistochemistry (IHC), FLISA, Western Blot (WB) |
| **Application Notes for anti-MLKLAK antibody** | IHC: 1:50-1:100<br>FLISA: 1:1,000<br>WB: 1:100-1:500<br>Applications are based on unconjugated antibody. |
| **Related Product Information for anti-MLKLAK antibody** | MBS6488392 is an antibody targeting MLKLAK. Also known as MLKLAK (MLK-like Mitogen-activated Protein Triple Kinase, MLTK, AZK, Human Cervical Cancer Suppressor Gene 4 Protein, HCCS4, HCCS-4, Leucine Zipper-and Sterile alpha Motif-containing Kinase, Mitogen-activated Protein Kinase Kinase Kinase MLT, Mixed Lineag. Reactive in Human. Host: Rabbit. |

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| **Product References and Citations for anti-MLKLAK antibody** | 1. Blume-Jensen P, et al. Nature 2001. 411: 355. 2. Cantrell D, J. Cell Sci. 2001. 114: 1439. 3. Jhiang S Oncogene 2000. 19: 5590. 4. Manning G, et al. Science 2002. 298: 1912. 5. Moller, D, et al. Am. J. Physiol. 1994. 266: C351-C359. 6.Robertson, S. et al. Trends Genet. 2000. 16: 368. 7.Robinson D, et al. Oncogene 2000. 19: 5548. 8.Van der Ven, P, et al. Hum. Molec. Genet. 1993. 2: 1889. 9.Vanhaesebroeck, B, et al. Biochem. J. 2000. 346: 561. 10.Van Weering D, et al. Recent Results Cancer Res. 1998. 154: 271. |
| **Other Notes** | Small volumes of anti-MLKLAK antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply. |




**Western Blot (WB) of anti-MLKLAK antibody**
Western blot analysis of anti-MLKLAK-C284 Pab in HepG2 cell line lysate (35ug/lane). MLKLAK-C284(arrow) was detected using the purified Pab. This western blot detected isoform 2 of MLKLAK, the accession number for MLKLAK isoform 1 is Q9NYL2, NP_057737.




**Immunohistochemistry (IHC) of anti-MLKLAK antibody**
Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

## ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for MLKLAK. It may not necessarily be applicable to this product.

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|---|---|
| **NCBI GI #** | 19526767 |
| **NCBI GeneID** | 51776 |
| **NCBI Accession #** | NP_598407 |
| **UniProt Primary Accession #** | Q9NYL2 |
| **UniProt Secondary Accession #** | Q53SX1; Q580W8; Q59GY5; Q86YW8; Q9HCC4; Q9HCC5; Q9HDD2; Q9NYE9; B3KPG2 |
| **UniProt Related Accession #** | Q9NYL2 |
| **GenBank Nucleotide #** | NM_133646.2 |
| **NCBI Official Full Name** | mitogen-activated protein kinase kinase kinase MLT isoform 2 |
| **NCBI Official Symbol** | ZAK |
| **NCBI Official Synonym Symbols** | pk; AZK; MLT; MRK; MLK7; MLTK; SFMMP; mlklak |
| **UniProt Protein Name** | Mitogen-activated protein kinase kinase kinase MLT |
| **UniProt Synonym Protein Names** | Human cervical cancer suppressor gene 4 protein; HCCS-4; Leucine zipper- and sterile alpha motif-containing kinase; MLK-like mitogen-activated protein triple kinase; Mixed lineage kinase-related kinase; MLK-related kinase; MRK; Sterile alpha motif- and leucine zipper-containing kinase AZK |
| **UniProt Gene Name** | MLTK |
| **UniProt Synonym Gene Names** | ZAK; HCCS-4; MLK-related kinase; MRK |
| **UniProt Entry Name** | MLTK_HUMAN |
| **NCBI Protein Information** | mitogen-activated protein kinase kinase kinase MLT |

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| **NCBI Summary for MLKLAK** | This gene is a member of the MAPKKK family of signal transduction molecules and encodes a protein with an N-terminal kinase catalytic domain, followed by a leucine zipper motif and a sterile-alpha motif (SAM). This magnesium-binding protein forms homodimers and is located in the cytoplasm. The protein mediates gamma radiation signaling leading to cell cycle arrest and activity of this protein plays a role in cell cycle checkpoint regulation in cells. The protein also has pro-apoptotic activity. Alternate transcriptional splice variants, encoding different isoforms, have been characterized. [provided by RefSeq, Jul 2008] |
| **UniProt Comments for MLKLAK** | ZAK: a mixed-lineage kinase containing a leucine-zipper (LZ) and a sterile-alpha motif (SAM). It is reported to activate the JNK/SAPK and NF-kappaB pathways.<br><br>Protein type: EC 2.7.11.25; Kinase, protein; Protein kinase, TKL; Protein kinase, Ser/Thr (non-receptor); TKL group; MLK family; MLK subfamily<br><br>Chromosomal Location of Human Ortholog: 2q24.2<br><br>Cellular Component: cytoplasm; nucleus<br><br>Molecular Function: protein serine/threonine kinase activity; protein binding; MAP kinase kinase kinase activity; magnesium ion binding; ATP binding<br><br>Biological Process: cell death; cell proliferation; response to radiation; activation of MAPKK activity; positive regulation of apoptosis; DNA damage checkpoint; response to stress; cytoskeleton organization and biogenesis; cell cycle arrest; cell differentiation; protein amino acid phosphorylation; cell cycle checkpoint; activation of JNK activity |
| **Research Articles on MLKLAK** | **1.** ZAK kinase isoform TV1 is preferentially upregulated in gastric tumours and cell lines relative to normal samples. This pattern is also observed in colorectal, bladder and breast cancers. |
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