

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human MELK in Western blots.
<b>Source</b>	Polyclonal Sheep IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human MELK Gln341-Ala470 Accession # Q14680
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

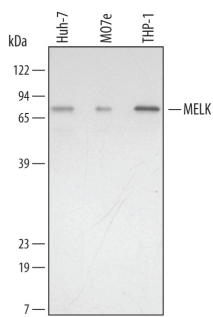
## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	1 µg/mL	See Below
<b>Immunohistochemistry</b>	5-15 µg/mL	See Below

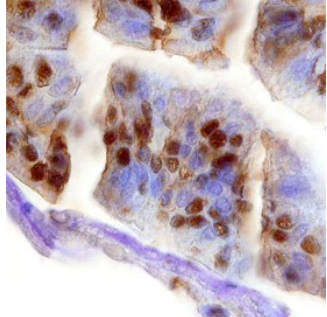
## DATA

**Western Blot**



**Detection of Human MELK by Western Blot.** Western blot shows lysates of Huh-7 human hepatoma cell line, MO7e human megakaryocytic leukemia cell line, and THP-1 human acute monocytic leukemia cell line. PVDF membrane was probed with 1 µg/mL of Sheep Anti-Human MELK Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4820) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for MELK at approximately 74 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

**Immunohistochemistry**



**MELK in Human Breast Cancer Tissue.** MELK was detected in immersion fixed paraffin-embedded sections of human breast cancer tissue using Sheep Anti-Human MELK Antigen Affinity-purified Polyclonal Antibody (Catalog # AF4820) at 10 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). Specific staining was localized to plasma membranes of glandular epithelial cells. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

MELK (maternal embryonic leucine zipper kinase; also HPK38) is a member of the Snf1/AMPK family of serine/threonine kinases. It is expressed in blood mononuclear cells, stem cells and other tissues, and functions in cell cycle progression and pre-mRNA splicing. Human MELK is 651 amino acids (aa) in length and contains one protein kinase domain (aa 11-263) and a kinase-associated (KA) 1 domain (aa 602-651). MELK is activated upon phosphorylation of T167 and S171. There are multiple alternative splice variants. Two show the same 16 aa substitution for the N-terminal 87 and 48 aa, respectively; a third shows an alternate start site at M440, and a fourth shows complex splicing over aa 1-392. Over aa 341-470, human MELK shares 56% aa identity with mouse MELK.