Human Kallikrein 4/Prostase/EMSP1 Antibody

Monoclonal Mouse IgG_{2B} Clone # 325712

Catalog Number: MAB35661

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Kallikrein 4/Prostase/EMSP1 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human (rh) Kallikrein 1, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, rhKallikrein B1, rhFactor VII, rhFactor X, rhFactor XI, rhHGFA, rhThrombin, and rhUPA-1 is observed.
Source	Monoclonal Mouse IgG_{2B} Clone # 325712
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Kallikrein 4/Prostase/EMSP1 Ser27-Ser254 Accession # NP_004908
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

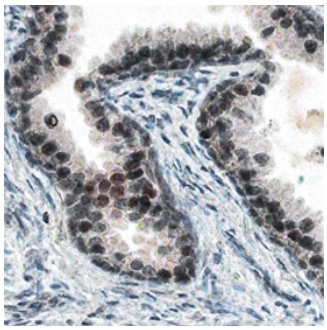
APPLICATIONS

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.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Human Kallikrein 4/Prostase/EMSP1 (Catalog # 1719-SE) under non-reducing conditions only
Immunohistochemistry	8-25 µg/mL	See Below
Immunoprecipitation	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human Kallikrein 4/Prostase/EMSP1 (Catalog # 1719-SE), see our available Western blot detection antibodies
Neutralization	Measured by its ability to neutralize Recombinant Human Kallikrein 4/Prostase/EMSP1 (1.0 µg/mL, Catalog # 1719-SE) cleavage of the fluorogenic peptide substrate Boc-VPR-AMC (100 µM, Catalog # ES011). The Neutralization Dose (ND_{50}) is typically 2.9 µg/mL.	

DATA

Immunohistochemistry



Kallikrein 4/Prostase/EMSP1 in Human Prostate.
Kallikrein 4/Prostase/EMSP1 was detected in immersion fixed paraffin-embedded sections of human prostate using Mouse Anti-Human Kallikrein 4/Prostase/EMSP1 Monoclonal Antibody (Catalog # MAB35661) at 15 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counter-stained with hematoxylin (blue). Specific staining was localized to nuclei of epithelial cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	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
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Kallikrein 4 (KLK4), also known as prostase or EMSP1 (enamel matrix serine protease 1), is a serine protease of the human tissue kallikrein gene family (1). Among normal tissues, human KLK4 is specifically expressed in the prostate (2). It is over-expressed in prostate cancer and this expression is regulated by hormones including androgens, esterogen and progesterone (3). Recombinant human KLK4 readily activates pro-KLK3/PSA and pro-urokinase type plasminogen activator (uPA), indicating it may initiate events involving PSA and uPA in either normal or abnormal processes (4). KLK4 may have additional roles such as functioning as one of the two major enamel proteases identified that process enamel matrix proteins (5). In addition to being a secreted enzyme, it is also a nuclear protein (3, 6). The deduced amino acid sequence of human KLK4 consists of a signal peptide, a short pro region and a mature/active enzyme.

References:

1. Yousef, G.M. and E.P. Diamandis (2001) Endocrine Rev. **22**:184.
2. Nelson, P.S. *et al.* (1999) Proc. Natl. Acad. Sci. USA **96**:3114.
3. Xi, Z. *et al.* (2004) Cancer Res. **64**:2365.
4. Takayama, T.K. *et al.* (2001) Biochemistry **40**:15341.
5. Simmer, J.P. and J.C. Hu (2002) Connect Tissue Res. **43**:441.
6. Ryu, O.H. *et al.* (2002) Eur. J. Oral. Sci. **110**:358.

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