

DESCRIPTION

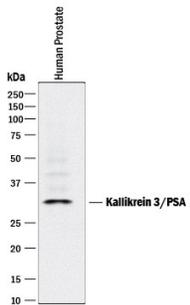
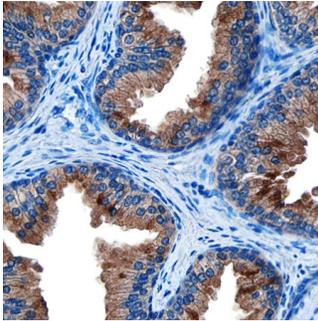
Species Reactivity	Human
Specificity	Detects human Kallikrein 3/PSA in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human Kallikrein 5 or 11 is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 181823
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Kallikrein 3/PSA Ala18-Pro261 Accession # P07288
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	2 µg/mL	See Below
Immunohistochemistry	8-25 µg/mL	See Below
Immunoprecipitation	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human Kallikrein 3/PSA (Catalog # 1344-SE), see our available Western blot detection antibodies

DATA

<p>Western Blot</p>  <p>Detection of Human Kallikrein 3/PSA by Western Blot. Western blot shows lysates of human prostate tissue. PVDF membrane was probed with 2 µg/mL of Mouse Anti-Human Kallikrein 3/PSA Monoclonal Antibody (Catalog # MAB1344) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF018). A specific band was detected for Kallikrein 3/PSA at approximately 30 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p>Immunohistochemistry</p>  <p>Kallikrein 3/PSA in Prostate Cancer. Kallikrein 3/PSA was detected in immersion fixed paraffin-embedded sections of prostate cancer tissue using Mouse Anti-Human Kallikrein 3/PSA Monoclonal Antibody (Catalog # MAB1344) at 1.7 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). Specific staining was localized to the apical plasma membrane. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.</p>
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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	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 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.

BACKGROUND

Kallikrein 3, commonly known as prostate specific antigen (PSA), is a serine protease of the human tissue Kallikrein gene family (1). PSA is synthesized in the ductal and acinar epithelium of the prostate gland and secreted into the seminal plasma in high concentrations (0.5-2 g/L) (2). A small portion of PSA "leaks" into the systemic circulation, the levels of which increase significantly (30-fold) from prostate cancer tissue than normal prostate tissue (3). PSA has become a well established tumor marker that aids the diagnosis, staging, and follow up of prostate cancer. The deduced amino acid sequence of human PSA consists of a signal peptide, a short pro region and a mature/active enzyme. The pro-enzyme is activated, possibly by active Kallikreins 2, 4 or 15 in vivo (4). Recombinant human PSA is activated by thermolysin, a zinc protease. The active PSA cleaves several tyrosyl peptide bonds in semenogelins I and II, which are the major gel-forming proteins produced by the seminal vesicles (5). Several inhibitors including serpin A3/α1-antichymotrypsin (ACT) and α2-macroglobulin are known to form complexes with PSA.

References:

1. Yousef, G.M. and E.P. Diamandis (2001) *Endocrine Rev.* **22**:184.
2. Ward, A.M. *et al.* (2001) *Ann. Clin. Biochem.* **38**:633.
3. Jain, S. *et al.* (2002) *Postgrad. Med. J.* **78**:646.
4. Lilja H. (2003) *Urology* **62**:270.
5. Takayama, T.K. *et al.* (1997) *J. Biol. Chem.* **272**:21582.