

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human KLK3 in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Kallikrein 3 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 either lyophilized or as a 0.2 µm filtered solution in PBS.

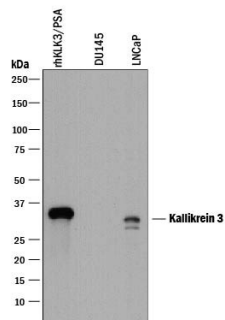
APPLICATIONS

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.

	Recommended Concentration	Sample
Western Blot	0.5-1 µg/mL	See Below
Immunocytochemistry	5-15 µg/mL	See Below
Immunohistochemistry	5-15 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

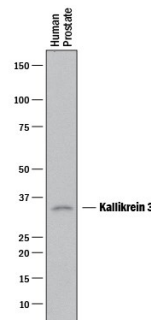
DATA

Western Blot



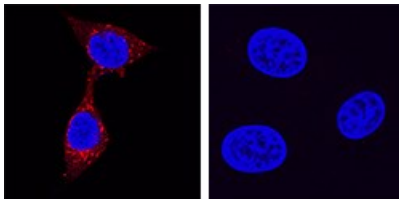
Detection of Human Kallikrein 3/PSA by Western Blot. Western blot shows lysates of Recombinant Human Kallikrein 3/PSA (Catalog # Catalog # 1344-SE), DU145 human prostate carcinoma cell line, and LNCaP human prostate cancer cell line. PVDF membrane was probed with 0.5 µg/mL of Goat Anti-Human Kallikrein 3/PSA Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1344) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # Catalog # HAF017). A specific band was detected for Kallikrein 3/PSA at approximately 28-30 kDa (as indicated). This experiment was conducted under reducing conditions and using [Immunoblot Buffer Group 1](#).

Western Blot



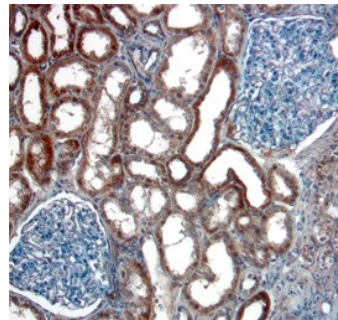
Detection of Human Kallikrein 3/PSA by Western Blot. Western blot shows lysates of human prostate tissue. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human Kallikrein 3/PSA Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1344) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # Catalog # HAF019). A specific band was detected for Kallikrein 3/PSA at approximately 31 kDa (as indicated). This experiment was conducted under reducing conditions and using [Immunoblot Buffer Group 1](#).

Immunocytochemistry



Kallikrein 3/PSA in LNCaP and MCF-7 Human Cell Lines. Kallikrein 3/PSA was detected in immersion fixed LNCaP human prostate cancer cell line (positive control, left panel) and MCF-7 human breast cancer cell line (negative control, right panel) using Goat Anti-Human Kallikrein 3/PSA Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1344) at 5 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # Catalog # NL001) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm of LNCaP cells. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

Immunohistochemistry



Kallikrein 3/PSA in Human Kidney Cancer Tissue. Kallikrein 3/PSA was detected in immersion fixed paraffin-embedded sections of human kidney cancer tissue using Goat Anti-Human Kallikrein 3/PSA Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1344) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # Catalog # CTS008) and counterstained with hematoxylin (blue). Specific labeling was localized to the cytoplasm of cells in convoluted tubules. View our protocol for [Chromogenic IHC Staining of immersion fixed paraffin-embedded Tissue Sections](#).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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. <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). rhPSA 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/ α_1 -antichymotrypsin (ACT) and α_2 -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**:27.
5. Takayama, T.K. *et al.* (1997) *J. Biol. Chem.* **272**:21582.