

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Kallikrein 14 in direct ELISAs.
Source	Monoclonal Mouse IgG ₁ Clone # 337903
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Kallikrein 14 Gln19-Met248 Accession # AAD50773
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
Immunoprecipitation	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Human Kallikrein 14 (Catalog # 2626-SE), see our available Western blot detection antibodies
Neutralization		Measured by its ability to neutralize Recombinant Human Kallikrein 14 (0.1 µg/mL, Catalog # 2626-SE) cleavage of the fluorogenic peptide substrate Boc-VPR-AMC (100 µM, Catalog # ES011). The Neutralization Dose (ND ₅₀) is typically 0.07 µg/mL.

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. <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

Human tissue kallikreins refer to a group of secreted serine proteases that are encoded by homologous genes clustering on chromosome 19q13.3-4. As a member of this family, human tissue Kallikrein 14 (hKLK14) is present in many tissues, with high levels in breast, skin, prostate, and brain. The 251 amino acid hKLK14 precursor consists of a signal peptide (residues 1 to 18), a pro peptide (residues 19 to 24) and an active protein (residues 25 to 251) (1). Its enzymatic activity has been shown to be mainly trypsin-like (2). However, its physiological substrates and functions are still unclear. Several studies have suggested that hKLK14 may have clinical utility as a biomarker for cancer of the breast, ovary, and prostate (3, 4). In addition, it may be the initiator of a kallikrein proteolytic cascade responsible for the degradation of the adhesion structures in the stratum corneum (2). The purified, secreted rhKLK14 corresponds to the pro form (residues 19 to 248) with a replacement of the last three residues with a His tag at the C-terminus. When activated by thermolysin, it displays enzymatic activity towards a fluorogenic peptide described above. This activity can be inhibited by rhSerpin A4, E1, and F2 (R&D Systems, Catalog # 1669-PI, 1786-PI, and 1470-PI, respectively).

References:

1. Yousef, G. M. *et al.* (2001) *Cancer Res.* **61**:3425.
2. Brattsand, M. *et al.* (2004) *J. Invest. Dermatol.* **124**:198.
3. Borgono, C. *et al.* (2003) *Cancer Res.* **63**:9032.
4. Yousef, G. M. *et al.* (2003) *Prostate.* **56**:287.