

DESCRIPTION

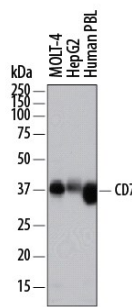
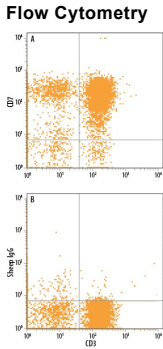
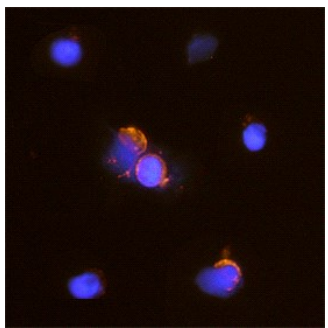
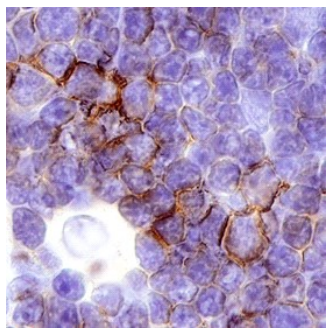
Species Reactivity	Human
Specificity	Detects human CD7 in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant mouse CD7 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Kidney embryonic cell line HEK293-derived recombinant human CD7 Ala26-Pro180 Accession # P09564
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	0.5 µg/mL	See Below
Flow Cytometry	2.5 µg/10 ⁶ cells	See Below
Immunocytochemistry	5-15 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below

DATA

<p>Western Blot</p>  <p>Detection of Human CD7 by Western Blot. Western blot shows lysates of MOLT-4 human acute lymphoblastic leukemia cell line, HepG2 human hepatocellular carcinoma cell line, and human peripheral blood lymphocytes (PBL). PVDF membrane was probed with 0.5 µg/mL of Sheep Anti-Human CD7 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7579) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for CD7 at approximately 35-40 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p>Flow Cytometry</p>  <p>Detection of CD7 in Human PBMCs by Flow Cytometry. Human peripheral blood mononuclear cells (PBMCs) were stained with Mouse Anti-Human CD3ε APC-conjugated Monoclonal Antibody (Catalog # FAB100A) and either (A) Sheep Anti-Human CD7 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7579) or (B) Sheep IgG Control (Catalog # 5-001-A) followed by Phycoerythrin-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # F0126).</p>
<p>Immunocytochemistry</p>  <p>CD7 in Human PBMCs. CD7 was detected in immersion fixed human peripheral blood mononuclear cells (PBMCs) using Sheep Anti-Human CD7 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7579) at 15 µg/mL for 3 hours at room temperature. Cells were stained using the Northern-Lights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red; Catalog # NL010) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm and plasma membrane. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.</p>	<p>Immunohistochemistry</p>  <p>CD7 in Human Thymus. CD7 was detected in immersion fixed paraffin-embedded sections of human thymus using Sheep Anti-Human CD7 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7579) at 3 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-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). Specific staining was localized to the plasma membrane. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.</p>

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
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

CD7 (Cluster of Differentiation Antigen 7; also Leu-9, TP41 and GP40) is a 40-44 kDa member of the Ig-superfamily of proteins. It shows restricted expression, being found on fetal thymocytes, CD34⁺ myeloid and lymphoid progenitor cells, memory CLA- CD45RA⁺ T cells, and CD56⁺ IFN- γ secreting NK cells. CD7 binds to both SECTM1/K12 and galectin-1, and when bound to the latter, initiates complex formation with CD43 in cis. Activation of CD7 may result in either cell proliferation or apoptosis, suggesting a context-dependent signaling mechanism. Mature human CD7 is a 215 amino acid (aa) type I transmembrane glycoprotein. It contains a 155 aa extracellular region (aa 26-180) that shows one V-type Ig-like domain (aa 26-130), and a 39 aa C-terminal cytoplasmic domain. There is one potential alternative splice variant that contains a 79 aa substitution for aa 133-240. Over aa 26-180, human CD7 shares only 43% aa sequence identity with mouse CD7.