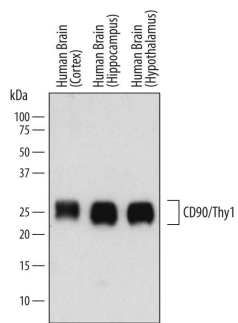
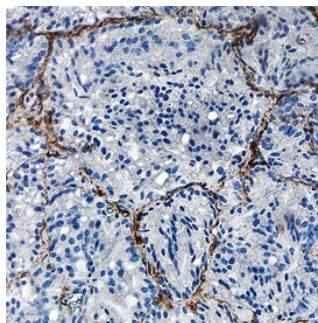
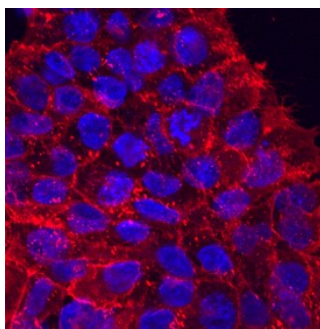
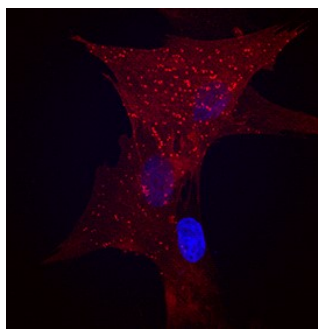
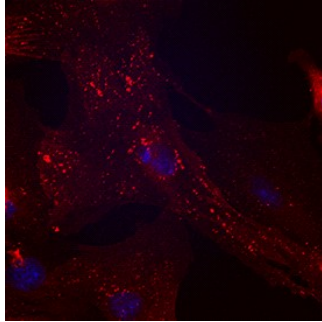


DESCRIPTION	
Species Reactivity	Human/Porcine/Canine
Specificity	Detects human CD90/Thy1 in direct ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant mouse CD90 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human CD90/Thy1 Gln20-Ser141 Accession # P04216
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. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website.	
	Recommended Concentration
	Sample
Western Blot	1 µg/mL See Below
Flow Cytometry	2.5 µL/10 ⁶ cells See Below
Immunocytochemistry	5-15 µg/mL See Below
Immunohistochemistry	5-15 µg/mL See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.

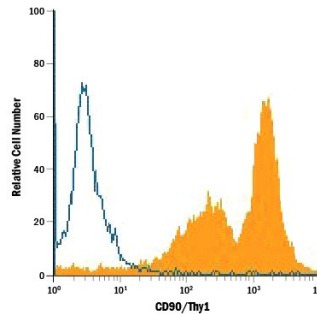
DATA	
<p>Western Blot</p>  <p>Detection of Human CD90/Thy1 by Western Blot. Western blot shows lysates of human brain (cortex) tissue, human brain (hippocampus) tissue, and human brain (hypothalamus) tissue. PVDF membrane was probed with 1 µg/mL of Sheep Anti-Human/Porcine/Canine CD90/Thy1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2067) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for CD90/Thy1 at approximately 22-30 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	<p>Immunohistochemistry</p>  <p>CD90/Thy1 in Human Prostate Cancer Tissue. CD90/Thy1 was detected in formalin fixed paraffin-embedded sections of human prostate cancer tissue using Sheep Anti-Human/Porcine/Canine CD90/Thy1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2067) at 1.7 µg/mL overnight at 4 °C. 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 endothelial cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.</p>
<p>Immunocytochemistry</p>  <p>CD90/Thy1 in BG01V Human Embryonic Stem Cells. CD90/Thy1 was detected in immersion fixed BG01V human embryonic stem cells using Sheep Anti-Human/Porcine/Canine CD90/Thy1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2067) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red; Catalog # NL010) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Stem Cells on Coverslips.</p>	<p>Immunocytochemistry</p>  <p>CD90/Thy1 in Canine Mesenchymal Stem Cells. CD90/Thy1 was detected in immersion fixed canine mesenchymal stem cells using Sheep Anti-Human/Porcine/Canine CD90/Thy1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2067) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red; Catalog # NL010) and counterstained with DAPI (blue). Specific staining was localized to cell surfaces. View our protocol for Fluorescent ICC Staining of Stem Cells on Coverslips.</p>

Immunocytochemistry



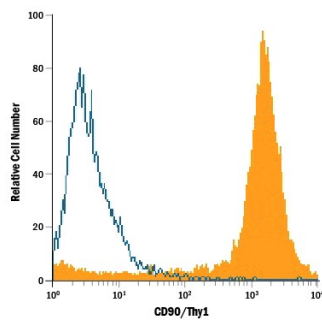
CD90/Thy1 in Porcine Mesenchymal Stem Cells. CD90/Thy1 was detected in immersion fixed porcine mesenchymal stem cells using Sheep Anti-Human/Porcine/Canine CD90/Thy1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2067) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red; Catalog # NL010) and counterstained with DAPI (blue). Specific staining was localized to cell surfaces and cytoplasm. View our protocol for [Fluorescent ICC Staining of Stem Cells on Coverslips](#).

Flow Cytometry



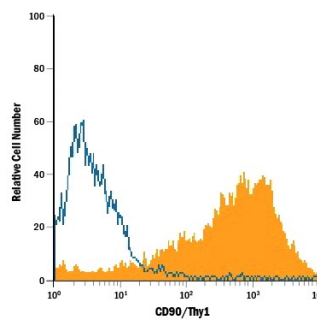
Detection of CD90/Thy1 in Human Mesenchymal Stem Cells by Flow Cytometry. Human mesenchymal stem cells were stained with Sheep Anti-Human/Porcine/Canine CD90/Thy1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2067, filled histogram) or isotype control antibody (Catalog # 5-001-A, open histogram), followed by PE-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # F0126).

Flow Cytometry



Detection of CD90/Thy1 in Porcine Mesenchymal Stem Cells by Flow Cytometry. Porcine mesenchymal stem cells were stained with Sheep Anti-Human/Porcine/Canine CD90/Thy1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2067, filled histogram) or isotype control antibody (Catalog # 5-001-A, open histogram), followed by PE-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # F0126).

Flow Cytometry



Detection of CD90/Thy1 in Canine Mesenchymal Stem Cells by Flow Cytometry. Canine mesenchymal stem cells were stained with Sheep Anti-Human/Porcine/Canine CD90/Thy1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2067, filled histogram) or isotype control antibody (Catalog # 5-001-A, open histogram), followed by PE-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # F0126).

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.

- 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

CD90 (also Thy1/Thymus cell antigen 1) is a 25-35 kDa glycoprotein member of the Immunoglobulin superfamily of molecules. It is expressed on neurons, ovarian follicular cells, endothelial cells, fibroblasts and circulating CD34⁺ stem cells, and appears to act as an adhesion molecule. CD90 is known to bind to integrins β2, β5 and β3, the latter often accompanied by additional binding to syndecan-4. In the postnatal nervous system, this inhibits neurite outgrowth while stabilizing newly formed axonal networks. In the vascular system, CD90 mediates the extravasation of leukocytes. And in lung, a CD90:αvβ5 interaction inhibits the extracellular activation of latent TGF-β. Mature human CD90 is a 111 amino acid (aa) GPI-linked protein (aa 20-130). It contains one V-type Ig-like domain (aa 20-126) with a heparin-binding motif (aa 56-60), and a GPI-anchor amidated cysteine at position 130. The integrin binding site consists of an Arg35LeuAsp37 tripeptide. CD90 apparently forms 50-60 kDa homodimers and 150 kDa homomultimers. There is one potential isoform variant that contains a 12 aa substitution for aa 1-13. Over aa 20-141, human CD90 shares 64% aa identity with mouse CD90 and 84% or 83% with horse and dog respectively.