Human/Porcine/Canine CD90/Thy1 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF2067

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 as a 0.2 μm filtered solution in PBS.

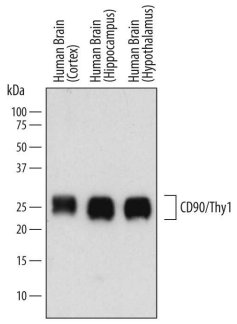
APPLICATIONS

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	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

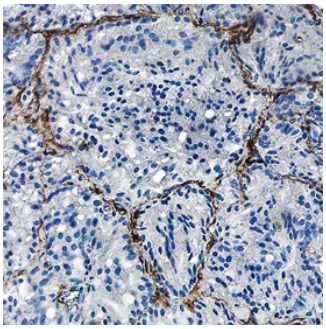
DATA

Western Blot



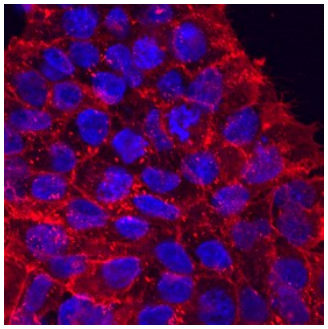
Detection of Human CD90/Thy1 by Western Blot. Western blot shows lysates of human brain (cortex) tissue, human brain (hippocampus) tissue, and human brain (hypothalamus) tissue. PVDF membrane was probed with 1 µg/mL of Sheep Anti-Human/Porcine/Canine CD90/Thy1 Antigen Affinity-purified Polyclonal Antibody (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.

Immunohistochemistry



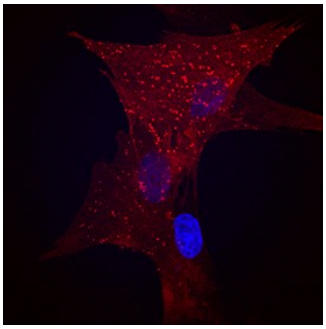
CD90/Thy1 in Human Prostate Cancer Tissue. CD90/Thy1 was detected in formalin fixed paraffin-embedded sections of human prostate cancer tissue using Sheep Anti-Human/Porcine/Canine CD90/Thy1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2067) at 1.7 µg/mL overnight at 4 °C. Tissue was stained 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.

Immunocytochemistry



CD90/Thy1 in BG01V Human Embyonic 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.

Immunocytochemistry



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.

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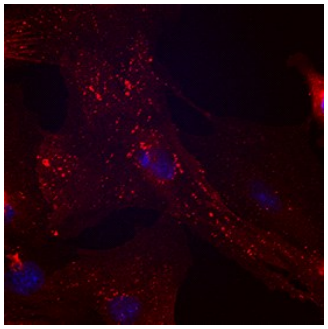
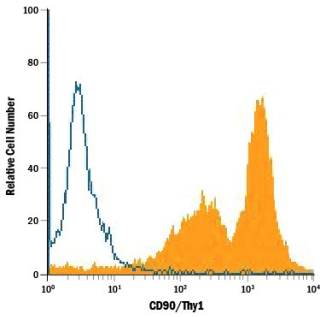


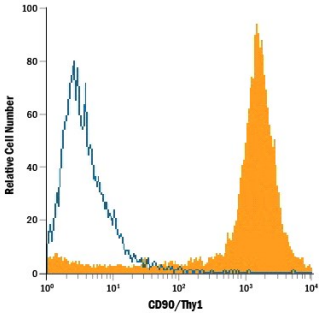
CD90/Thy1 in Porcine Mesenchymal Stem Cells. CD90/Thy1 was detected in immersion fixed porcine mesenchymal stem cells using Sheep Anti-Human/Porcine/Canine CD90/Thy1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2067) at 10 µg/mL for 3 hours at room temperature. Cells were stained using 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



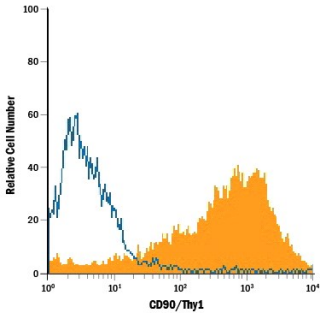
Detection of CD90/Thy1 in Human Mesenchymal Stem Cells by Flow Cytometry. Human mesenchymal stem cells were stained with Sheep Anti-Human/Porcine/Canine CD90/Thy1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2067, filled histogram) or isotype control antibody (Catalog # 5-001-A, open histogram),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