Mouse/Rat CD47 N-terminal IgV-like Extracellular Domain Antibody

Antigen Affinity-purified Polyclonal Goat IgG

Catalog Number: AF1866

DESCRIPTION

Species Reactivity	Mouse/Rat
Specificity	Detects mouse CD47 N-terminal IgV-like in direct ELISAs and Western blots. In direct ELISAs, less than 15% cross-reactivity with recombinant human CD47 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse CD47 N-terminal IgV-like Gln19-Pro158 Accession # NP_034711
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.

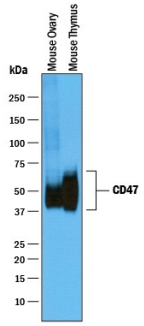
APPLICATIONS

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	0.25-1 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	Perfusion fixed frozen sections of mouse ovary and thymus

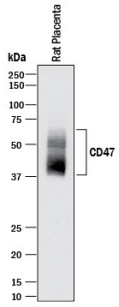
DATA

Western Blot



Detection of Mouse CD47 by Western Blot. Western blot shows lysates of mouse ovary tissue and mouse thymus tissue. PVDF membrane was probed with 0.25 µg/mL of Goat Anti-Mouse/Rat CD47 N-terminal IgV-like Extracellular Domain Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1866) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF019). Specific bands were detected for CD47 at approximately 40-60 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Western Blot



Detection of Rat CD47 by Western Blot. Western blot shows lysates of rat placenta tissue. PVDF membrane was probed with 1 µg/mL of Goat Anti-Mouse/Rat CD47 N-terminal IgV-like Extracellular Domain Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1866) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). Specific bands were detected for CD47 at approximately 40-60 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

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.** ● 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.

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BACKGROUND

CD47, also known as Integrin-Associated Protein (IAP) and OA3, is a 40-60 kDa variably glycosylated atypical member of the immunoglobulin superfamily (1, 2). Mouse CD47 is an integral membrane protein that consists of a 122 amino acid (aa) extracellular domain (ECD) with a single Ig-like domain, five membrane-spanning regions with short intervening loops, and a 16 aa C-terminal cytoplasmic tail (3). Alternate splicing of mouse CD47 generates an additional isoform with an insertion of 21 aa following the Ig-like domain (3). Within the N-terminal ECD, mouse CD47 shares 63% and 84% aa sequence identity with human and rat CD47, respectively. A portion of the N-terminal ECD can by shed from smooth muscle cells by MMP-2-mediated proteolysis (4). The ubiquitously expressed CD47 binds to SIRP family members on macrophages, neutrophils, and T cells (5, 6). These interactions prevent macrophage-mediated clearance of healthy CD47-expressing cells and promote immune cell transmigration across the vascular endothelium (5-8). CD47 associates *in cis* with Fas on T cells and enhances Fas-mediated apoptosis; its ligation promotes T cell anergy and dampens Th1 immune responses (9-11). CD47 also associates *in cis* with Integrins α4β1, αVβ3, α2bβ3, and α2β1 which can positively or negatively modulate Integrin-mediated function (2, 12). In the vasculature, CD47 binding by Thrombospondin-1 inhibits the angiogenic and vasorelaxant effects of nitric oxide (2, 13, 14). On dendritic cells and myeloma cells, CD47 ligation by TSP-1 induces giant cell formation and osteoclast differentiation (15).

References:

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