

DESCRIPTION

Species Reactivity	Feline
Specificity	Detects feline Flt-3 Ligand in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 10% cross-reactivity with recombinant human Flt-3 Ligand and recombinant mouse Flt-3 Ligand is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant feline Flt-3 Ligand Ser27-Pro185 Accession # NP_001009842
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
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	0.1 µg/mL	Recombinant Feline Flt-3 Ligand (Catalog # 2467-FL)
Immunocytochemistry	5-15 µg/mL	See Below
Neutralization	Measured by its ability to neutralize Flt-3 Ligand-induced proliferation in BaFlt3 mouse pro-B cell line transfected with mouse Flt-3. Hannum, C. <i>et al.</i> (1994) <i>Nature</i> 368 :643. The Neutralization Dose (ND ₅₀) is typically 0.1-0.4 µg/mL in the presence of 2 ng/mL Recombinant Feline Flt-3 Ligand.	

DATA

Neutralization

Cell Proliferation Induced by Flt-3 Ligand and Neutralization by Feline Flt-3 Ligand Antibody. Recombinant Feline Flt-3 Ligand (Catalog # 2467-FL) stimulates proliferation in BaFlt3 mouse pro-B cell line transfected with mouse Flt-3 in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Feline Flt-3 Ligand (2 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Feline Flt-3 Ligand Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2467). The ND₅₀ is typically 0.1-0.4 µg/mL.

Immunocytochemistry

Flt-3 Ligand in Feline PBMCs. Flt-3 Ligand was detected in immersion fixed feline peripheral blood mononuclear cells (PBMCs) using Goat Anti-Feline Flt-3 Ligand Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2467) at 15 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for [Fluorescent ICC Staining of Non-adherent Cells](#).

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. <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

Flt-3 Ligand, also known as FL, is an α -helical cytokine that promotes the differentiation of multiple hematopoietic cell lineages (1-3). Mature feline Flt-3 Ligand consists of a 156 amino acid (aa) extracellular region with a cytokine-like domain and a juxtamembrane tether region, a 21 aa transmembrane segment, and an 88 aa cytoplasmic tail (4, 5). Within the ECD, feline Flt-3 Ligand shares 92%, 81%, 70%, and 63% aa sequence identity with canine, human, mouse, and rat Flt-3 Ligand, respectively. Flt-3 Ligand is expressed as a noncovalently-linked dimer by T cells and bone marrow and thymic fibroblasts (1, 6). Each 36 kDa chain carries approximately 12 kDa of N- and O-linked carbohydrates (6). Alternate splicing and proteolytic cleavage of the transmembrane form can generate a soluble 30 kDa fragment that includes the cytokine domain (6, 7). Multiple splice forms of canine, human, and mouse Flt-3 Ligand have been described and may also exist in feline (4, 6-10). Both transmembrane and soluble Flt-3 Ligand signal through the tyrosine kinase receptor Flt-3/Flk-2 (3, 5, 7, 10). Flt-3 Ligand induces the expansion of monocytes and immature dendritic cells as well as early B cell lineage differentiation (2, 11). It synergizes with IL-3, GM-CSF, and SCF to promote the mobilization and myeloid differentiation of hematopoietic stem cells (7, 8, 10). It cooperates with IL-2, -6, -7, and -15 to induce NK cell development and with IL-3, -7, and -11 to induce terminal B cell maturation (1, 12). Animal studies also show Flt-3 Ligand to reduce the severity of experimentally induced allergic inflammation (13).

References:

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