

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Chitinase 3-like 1/YKL-40 in Western blots. In Western blots, less than 10% cross-reactivity with recombinant human Chitinase 3-like 1/YKL-40 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Chitinase 3-like 1/YKL-40 Tyr22-Ala381 Accession # Q61362
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein.

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 Mouse Chitinase 3-like 1/YKL-40

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.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <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

Chitinase 3-like 1 (CHI3L1), also called breast regression protein 39 (BRP39) in mouse, or YKL-40 in humans, is a 39 kDa glycoprotein member of the glycosyl hydrolase 18 family (1-4). CHI3L1 was first identified as secreted from cultured articular chondrocytes, synovial cells, and activated monocyte-derived macrophages, but it is also secreted by neutrophils, endothelial cells, vascular smooth muscle cells, and some cancer cells (1, 2, 5-7). The mouse CHI3L1 cDNA encodes 381 amino acids (aa), including a 21 aa signal sequence and a 360 aa mature region with two intermolecular disulfides (3). Mature mouse CHI3L1 shares 73%, 75%, 72%, 71%, 70% and 69% aa sequence identity with human, rat, equine, porcine, canine and bovine CHI3L1, respectively. CHI3L1 does not show chitotriosidase activity, but binds chitin and is thus termed a chi-lectin (1-4). CHI3L1 can bind heparins, probably as heparan sulfate (3, 7). It has been found to enhance cell adhesion and promote cell signaling, proliferation and tumor angiogenesis (4, 6-9). Human elevated serum CHI3L1 levels occur in some conditions characterized by inflammation and connective tissue remodeling, such as arthritis, chronic obstructive pulmonary disease, diabetes, cardiovascular disease, inflammatory bowel disease, and liver cirrhosis (1, 9-12). Human single nucleotide polymorphisms that can increase serum CHI3L1 are associated with higher risk for asthma in childhood (13). CHI3L1 is frequently upregulated in glioblastoma, myxoid chondrosarcoma, melanoma and carcinomas of the breast, thyroid, colon, lung, kidney, and ovary (9). In asthma and cancer, serum CHI3L1 concentrations can correlate with prognosis (9, 14, 15). Mice lacking CHI3L1 have markedly diminished antigen-induced Th2 responses, which can be rescued by expression of human CHI3L1 (16).

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