

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Chitinase 3-like 1/YKL-40 in direct ELISAs and Western blots. In direct ELISAs and Western blots, this antibody does not cross-react with recombinant human Chitinase 3-like 1/YKL-40.
Source	Monoclonal Rat IgG _{2B} Clone # 321924
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Chitinase 3-like 1/YKL-40 Tyr22-Ala381 Accession # Q61362
Conjugate	Alexa Fluor 532 Excitation Wavelength: 534 nm Emission Wavelength: 553 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

Western Blot Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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).

PRODUCT SPECIFIC NOTICES

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