

DESCRIPTION

Species Reactivity	Human/Primate
Specificity	Detects human and primate Chitinase 3-like 1/YKL-40 in direct ELISAs.
Source	Monoclonal Rat IgG ₁ Clone # 384327
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Chitinase 3-like 1/YKL-40 Tyr22-Thr383 Accession # P36222
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 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.

ELISA Capture (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
ELISA Detection (Matched Antibody Pair)	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 YKL-40 or human cartilage glycoprotein 39 (HCGP39), 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 human CHI3L1 cDNA encodes 383 amino acids (aa), including a 21 aa signal sequence and a 362 aa mature region with two intramolecular disulfides (3). Mature human CHI3L1 shares 73%, 80%, 82%, 83%, 86% and 87% aa sequence identity with mouse, rat, canine, bovine, porcine and equine CHI3L1, respectively. Human CHI3L1 and CHI3L2 share 43% aa sequence identity. Neither shows chitotriosidase activity, but both bind chitin and are thus termed chi-lectins (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). 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). Single nucleotide polymorphisms that can increase serum CHI3L1 are associated with higher risk for asthma in childhood (13). CHI3L1 is frequently up-regulated 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).

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