

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Granulysin in direct ELISAs and Western blots. In direct ELISAs and Western blots, less than 1% cross-reactivity with recombinant human NKG-2D is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Granulysin Arg23-Leu145 Accession # P22749
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 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.

CyTOF-ready	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Intracellular Staining by Flow Cytometry	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

Granulysin (formerly NKG5 or Lymphokine LAG-2) is a member of the saposin-like protein (SAPLIP) family of membrane disrupting proteins (1). Granulysin is expressed in granules of natural killer and activated cytotoxic T cells. It exhibits cytolytic activity against intracellular or extracellular microbes and also tumors, either alone or in synergy with perforin (2). Human granulysin has structural similarity and 30 - 40% aa identity to granulysins and NK-lysins of other mammals such as bovine, porcine and canine; similar peptides in rodents have not been identified (1). The 15 kDa unglycosylated protein contains five helical domains; helix 2 and 3 contain 9 arginines and one cysteine critical for activity. Peptides of either helix 2 or 3 will lyse bacteria, while helix 3 is needed to lyse tumor targets (3, 4). One isoform designated 519 uses a different start codon, has no signal peptide sequence and is poorly expressed (5). A post-translationally processed 9 kDa form is present in acidified granules and is less lytic than the 15 kDa form at granule pH (6). IL-15 is necessary and sufficient for granulysin upregulation in CD8 T cells (2). Nanomolar granulysin promotes chemotaxis and increases production of chemokines by monocytic cells, while micromolar local concentrations are needed for lysis (7). Experimental evidence supports the following mechanism for activity against intracellular pathogens (8). First, granulysin forms clusters in lipid rafts due to interaction of positive charges in helices 2-3 with acidic sphingolipids. After endocytosis, early endosomes fuse with phagosomes, probably regulated by small GTPase rab5. Granulysin binds microbial membranes through charge interactions and disrupts them, probably via scissoring actions of granulysin molecules (9, 10).

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