

Human Neutrophil Elastase/ELA2 Alexa Fluor® 700-conjugated Antibody

Recombinant Monoclonal Mouse IgG₁ Clone # 950317R

Catalog Number: IC91671RN

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Neutrophil Elastase/ELA2 in direct ELISAs.
Source	Recombinant Monoclonal Mouse IgG ₁ Clone # 950317R
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human Neutrophil Elastase/ELA2 Met1-Asn252 Accession # P08246
Conjugate	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and 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.

	Recommended Concentration	Sample
Intracellular Staining by Flow Cytometry	0.25-1 µg/10 ⁶ cells	THP-1 human acute monocytic leukemia cell line fixed with Flow Cytometry Fixation Buffer (Catalog # FC004) and permeabilized with Flow Cytometry Permeabilization/Wash Buffer I (Catalog # FC005)

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. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Neutrophil Elastase (ELA2, ELANE), also known as HNE, is a chymotrypsin family serine protease that plays a key role in pathogen clearance (1-3). It is expressed by promyelocytes and stored in the intracellular azurophilic granules of polymorphonuclear leukocytes (PMN) (4). These granules fuse with phagosomes, enabling Neutrophil Elastase to participate in the digestion and killing of endocytosed microbes. The enzyme is released by activated neutrophils at sites of inflammation, and it can remain associated with the cell surface or function as a component of neutrophil extracellular nets (NETs) which trap and kill microbial pathogens (5, 6). It also can degrade multiple extracellular matrix proteins including Elastin and Fibronectin (5). In the lung, this activity contributes to pathology in emphysema, cystic fibrosis, and adult respiratory distress syndrome (ARDS) (1). Neutrophil Elastase can be inhibited by Serpin A1/alpha 1-Antitrypsin, SLPI, Serpin B1, and Trappin-2/Elafin (7-11). Its activity in the lung is increased by exposure to tobacco smoke which inactivates Serpin A1 through methionine oxidation (12). Mature human Neutrophil Elastase shares 73% amino acid sequence identity with mouse and rat Neutrophil Elastase (13, 14). Multiple mutations in the human ELANE gene are causative of severe congenital and cyclic neutropenias (15).

References:

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