Human Matriptase/ST14 Catalytic Domain Alexa Fluor® 647-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 416802

Catalog Number: IC3946R

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Matriptase/ST14 Catalytic Domain in direct ELISAs and Western blots.
Source	Monoclonal Mouse IgG_1 Clone # 416802
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*E. coli*-derived recombinant human Matriptase/ST14 Catalytic Domain Val615-Val855 Accession # Q9Y5Y6
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *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	PC-3 human prostate cancer cell line fixed with paraformaldehyde and permeabilized with saponin

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

Human Matriptase, encoded by the ST14 (suppression of tumorogenicity 14) gene, is also known as tumor associated differentially expressed gene 15 protein/TADG-15), epithin, and membrane-type serine protease 1/MT-SP1 (1). Predicted to have a significant role in tumor biology, Matriptase may be a novel target for anti-cancer therapy (2). However, expressed in most human epithelia, Matriptase is also important in several physiological processes (1). For example, it activates prostasin to initiate a protease cascade that is essential for epidermal differentiation (3), and it converts a single-chain IGFBP-rp1 into the two-chain form (4). Matriptase is a type II transmembrane serine protease with a complex modular structure (1). The 855 amino acid (aa) sequence of human Matriptase consists of a cytoplasmic tail (aa 1-55), a transmembrane domain (aa 56-76), and an extracellular portion (aa 77-855). The latter contains the following domains: SEA (aa 86-201), two CUBs (aa 214-334 and 340-447), four LDLRAs (aa 452-486, 487-523, 524-560, and 566-603), and a serine protease (aa 615-855). The physiological activation of the single-chain zymogen requires the cleavage at the SEA domain within the ER or Golgi, association with HAI-1, which facilitates the transport of the protease to the cell surface, and auto-cleavage at QAR-V(615)VGG (1). The activated Matriptase is inhibited by HAI-1, and the resulting HAI-1 complex can be shed from the cell surface (1).

References:

1. List, K. *et al.* (2006) Mol. Med. **12**:1.
2. Uhland, K. (2006) Cell. Mol. Life Sci. **63**:2968.
3. Netzel-Arnett, S. *et al.* (2006) J. Biol. Chem. **281**:32941.
4. Ahmed, S. *et al.* (2006) FEBS J. **273**:615.

PRODUCT SPECIFIC NOTICES

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