Human ACE/CD143 PE-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 171417

Catalog Number: FAB929P

100 TESTS

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human ACE/CD143 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human ACE-2 is observed. Detects the surface expression of human ACE on full length ACE transfectants, but not on control transfectants by flow cytometry.
Source	Monoclonal Mouse IgG_1 Clone # 171417
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human ACE/CD143 aa 30-1261
Conjugate	Phycoerythrin Excitation Wavelength: 488 nm Emission Wavelength: 565-605 nm
Formulation	Supplied 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.

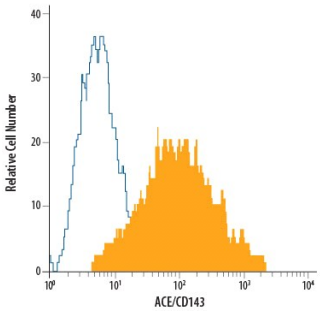
APPLICATIONS

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
Flow Cytometry	10 µL/10^6 cells	See Below

DATA

Flow Cytometry



Detection of ACE/CD143 in Human monocyte-derived dendritic cells by Flow Cytometry. Human monocyte-derived dendritic cells were stained with Mouse Anti-Human ACE/CD143 PE-conjugated Monoclonal Antibody (Catalog # FAB929P, filled histogram) or isotype control antibody (Catalog # IC002P, open histogram). View our protocol for Staining Membrane-associated Proteins.

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.

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BACKGROUND

ACE (also known as peptidyl-dipetidase A) is a zinc metallopeptidase important for blood pressure control and water and salt metabolism (2). It cleaves the C-terminal dipeptide from angiotensin I to produce the potent vasopressor octapeptide angiotensin II and inactivates bradykinin by the sequential removal of two C-terminal dipeptides. In addition to the two physiological substrates, ACE cleaves C-terminal dipeptides from various oligopeptides with a free C-terminus. Because of its location and specificity, ACE plays additional roles in immunity, reproduction and neuropeptide regulation. For example, ACE degrades Alzheimer amyloid β-peptide (Aβ), retards Aβ aggregation, deposition, fibril formation, and inhibits cytotoxicity (3).

ACE is a type I membrane protein and exists in two isoforms (2). Somatic ACE, found in endothelial, epithelial and neuronal cells, comprises two highly similar domains called N- and C-domains, each of which contains the HExxH consensus sequence for zinc binding. Germinal ACE, found exclusively in the testes, comprises a single catalytically active domain identical to the C-domain of somatic ACE except for an N-terminal 67 residue germinal ACE-specific sequence. Physiological functions of the two tissue-specific isozymes are not interchangeable (4). For example, sperm-specific expression of the germinal ACE, not the somatic ACE, in ACE knockout male mice restored fertility.

Soluble ACE is present in many biological fluids, such as serum, seminal fluid, amniotic fluid and cerebrospinal fluid (2). The soluble ACE is derived from the membrane forms by actions of secretases or sheddases. The identities of the secretases have not been revealed, although they belong to the family of zinc metallopeptidases (5, 6).

References:

1. Soubrier, *et al.* (1988) Proc. Natl. Acad. Sci. USA **85**:9386.
2. Corvol, P. and T.A. Williams (1998) in *Handbook of Proteolytic Enzymes.* Barrett, A.J. *et al.* (eds): San Diego, Academic Press, p. 1066.
3. Hu, *et al.* (2001) J. Biol. Chem. **276**:47863.
4. Kessler, *et al.* (2000) J. Biol. Chem. **275**:26259.
5. Eyries, *et al.* (2001) J. Biol. Chem. **276**:5525.
6. Alfalah, *et al.* (2001) J. Biol. Chem. **276**:21105.