Mouse ACE/CD143 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1513

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse ACE in direct ELISAs and Western blots. In Western blots, approximately 25% cross-reactivity with recombinant human ACE and 5% cross-reactivity with recombinant human ACE-2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse ACE/CD143 Leu35-Gln1264 Accession # P09470
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

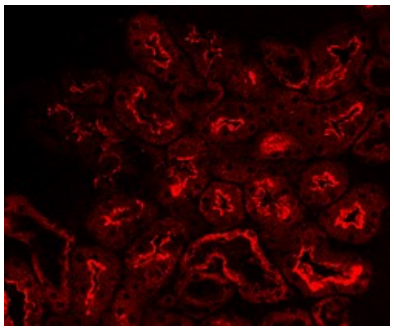
APPLICATIONS

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
Western Blot	0.1 µg/mL	Recombinant Mouse ACE/CD143 Somatic Form (Catalog # 1513-ZN)
Flow Cytometry	2.5 µg/10^6 cells	Mouse lung single-cell suspension
Immunohistochemistry	5-15 µg/mL	See Below
Immunoprecipitation	25 µg/mL	Conditioned cell culture medium spiked with Recombinant Mouse ACE/CD143 Somatic Form (Catalog # 1513-ZN), see our available Western blot detection antibodies

DATA

Immunohistochemistry



ACE/CD143 in Mouse Kidney. ACE/CD143 was detected in perfusion fixed frozen sections of mouse kidney using 15 µg/mL Goat Anti-Mouse ACE/CD143 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1513) overnight at 4 °C. Tissue was stained (red). View our protocol for Fluorescent IHC Staining of Frozen Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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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 (1). 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 (2).

ACE is a type I membrane protein and exists in two isoforms (1). Somatic ACE, found in endothelial, epithelial and neuronal cells, comprises two highly similar catalytic domains called N- and C-domains. Germinal ACE, found exclusively in the testes, comprises a single catalytic 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 (3). 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 (1). 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 (4, 5).

References:

1. Corvol, P. *et al.* (2004) in *Handbook of Proteolytic Enzymes* (Barrett, A.J. *et al.,* eds.) p. 332, Academic Press, San Diego.
2. Hu, J. *et al.* (2001) J. Biol. Chem. **276**:47863.
3. Kessler, S.P. *et al.* (2000) J. Biol. Chem. **275**:26259.
4. Eyries, M. *et al.* (2001) J. Biol. Chem. **276**:5525.
5. Alfalah, M. *et al.* (2001) J. Biol. Chem. **276**:21105.