PRODUCT INFORMATION

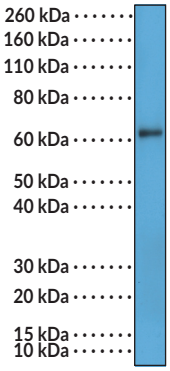
Ecto-5'-nucleotidase/CD73 Rabbit Monoclonal Antibody (Clone RM431)

Item No. 35613

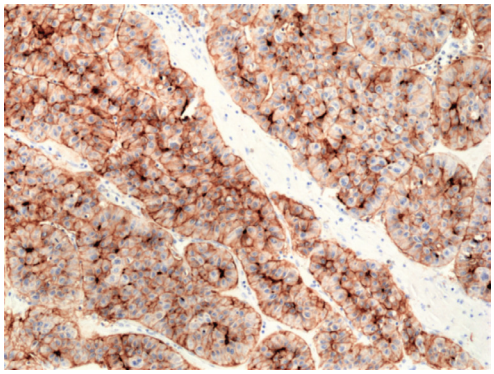
Overview and Properties

Contents: This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonym: NT5E
Immunogen: Recombinant human CD73
Cross Reactivity: (+) CD73
Species Reactivity: (+) Human
Form: Liquid
Storage: -20°C (as supplied)
Stability: ≥1 year
Storage Buffer: PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone: RM431
Host: Rabbit
Isotype: IgG
Applications: Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:100-1:250 for IHC and 1:1,000-1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



WB of MDA-MB-231 cell lysate using CD73 Rabbit Monoclonal Antibody at a dilution of 1:1,000.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human liver cancer tissue using CD73 Rabbit Monoclonal Antibody at a dilution of 1:200.

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION

Description

CD73, also known as ecto-5'-nucleotidase, is a membrane-bound ectoenzyme that catalyzes the hydrolysis of AMP to adenosine, a mediator of purinergic signaling pathways.[1,2] It exists as a homodimer where each monomer is composed of a catalytic N-terminal domain, a C-terminal substrate-binding domain, and a glycosylphosphatidylinositol (GPI) anchor that is attached to the cell membrane.[1] CD73 is ubiquitously expressed, and a soluble form of CD73 (sCD73) can be produced by proteolytic cleavage of its GPI anchor.[1] It is upregulated by hypoxia and a variety of pro-inflammatory mediators, including TGF-β, IFN, TNF-α, IL-1β, and prostaglandin E_2 (PGE_2).[3] The enzymatic activity of CD73 is coupled to CD39, the enzyme that produces AMP from ATP, a danger signal produced from injured or dying cells.[2] CD73 converts AMP to adenosine, a ligand for adenosine receptors, which regulate various physiological responses, including inflammatory pathways.[2,3] It has other immunoregulatory functions, including acting as a T cell co-stimulatory molecule, inhibiting macrophage-mediated inflammation, and facilitating lymphocyte tethering to the endothelium.[2] CD73 has additional roles in the maintenance of tissue barrier function, cardioprotection during ischemia-reperfusion injury, and cancer, where it promotes metastasis, angiogenesis, and immune evasion.[4] Increased tumor CD73 expression is associated with poor overall survival in patients with breast or ovarian cancer.[5] Cayman's Ecto-5'-nucleotidase/CD73 Rabbit Monoclonal Antibody (Clone RM431) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

1. Nocentini, A., Capasso, C., and Supuran, C.T. Small-molecule CD73 inhibitors for the immunotherapy of cancer: A patent and literature review (2017-present). *Expert Opin. Ther. Pat.* **31(10)**, 867-876 (2021).
2. Minor, M., Alcedo, K.P., Battaglia, R.A., *et al.* Cell type- and tissue-specific functions of ecto-5'-nucleotidase (CD73). *Am. J. Physiol. Cell Physiol.* **317(6)**, C1079-C1092 (2019).
3. Antonioli, L., Pacher, P., Vizi, E.S., *et al.* CD39 and CD73 in immunity and inflammation. *Trends Mol. Med.* **19(6)**, 355-367 (2013).
4. Gao, Z., Dong, K., and Zhang, H. The roles of CD73 in cancer. *Biomed. Res. Int.* 460654 (2014).
5. de Leve, S., Wirsdörfer, F., and Jendrossek, V. Targeting the immunomodulatory CD73/adenosine system to improve the therapeutic gain of radiotherapy. *Front. Immunol.* **10**, 698 (2019).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM