NT5E/CD73 Antibody

Cat. No. CP10331

Applications:	**WB, IHC**
Detected MW:	**70 kDa**
Species & Reactivity:	**Human, Mouse, Rat**
Isotype:	**Mouse IgG1**

BACKGROUND

Ecto-5'-nucleotidase (NT5E, also known as CD73) is a glycosyl phosphatidylinositol (GPI)-anchored membrane protein that catalyzes the hydrolysis of extracellular AMP to adenosine. NT5E/CD73 regulates diverse physiological processes that are modulated by adenosine, including hypoxia, inflammation and epithelial ion transport. NT5E/CD73 also plays regulatory role in some biological processes independent of its catalytic activity. It was shown that NT5E/CD73 is a lymphocyte-vascular adhesion protein, which mediates lymphocyte adhesion to endothelium and promotes lymphocyte cell migration. Moreover, in lymphocytes, antibody against NT5E/CD73, in combination with submitogenic concentrations of phorbol myristate acetate, induced strong activation of T-cells that resulted in increased proliferation, secretion of interleukin (IL)-2, and expression of the IL-2 receptor. In addition, NT5E/CD73 is highly expressed in many human solid tumors. It was associated with tumor neovascularization, invasion, and metastasis.[1] In normal breast epithelium, NT5E/CD73 was differentially expressed in lobular, ductal and myoepithelial cells, and was most frequently detected in the myoepithelial compartment. NT5E/CD73 level in the highly metastatic MDA-MB-435 cells was much higher than normal mammary epithelial cells. NT5E/CD73 was negatively regulated by estrogen receptor a (ERa). NT5E/CD73 expression and its generation of adenosine may relate to breast cancer progression. Therefore, increased expression of NT5E/CD73 in ER-negative cells may serve as a novel marker for more aggressive breast carcinoma.[2] Furthermore it was shown that NT5E/CD73 is expressed in peptidergic and nonpeptidergic nociceptive (pain-sensing) neurons and their axon terminals in spinal cord and skin. Moreover, it was demonstrated that NT5E/CD73 has antinociceptive effects *in vivo* and the long lasting antinociceptive effects of mNT5E are due to hydrolysis of AMP followed by activation of A_1R.[3] Recently, it was shown that deficiency of NT5E/CD73 led to symptomatic arterial and joint calcifications, which results from mutations in the NT5E/CD73 gene.[4]

References:

1. Wang, L. et al: J. Cancer Res. Clin. Oncol. 134:365-72, 2008
2. Zhou, P. et al: Cancer Biol. Therapy 6:426-31, 2007
3. Sowa, N.A. et al: Mol. Pain 6:20, 2010
4. Hilaire, C. S. et al: N Engl J Med 364:432-44, 2011

TECHNICAL INFORMATION

Source:
NT5E Antibody is a mouse monoclonal antibody raised against recombinant human NT5E fragments expressed in *E. coli*.

Specificity and Sensitivity:
This antibody detects endogenous NT5E proteins without cross-reactivity with other family members.

Storage Buffer: PBS and 30% glycerol

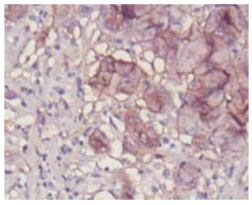
Storage:
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

Application:	*Dilution:
WB	1:1000
IP	n/d
IHC	1:50-200
ICC	n/d
FACS	n/d

**Optimal dilutions must be determined by end user.*

QUALITY CONTROL DATA



Immunohistochemical staining of paraffin-embedded human lung cancer tissue using NT5E/CD73 Antibody.