Anti-CD47 Antibody [1A9]

EM1701-38

Product Type:	Mouse monoclonal IgM, primary antibodies
Species reactivity:	Human
Applications:	IF-Cell, IHC-P, FC
Molecular Wt:	Predicted band size: 35 kDa
Clone number:	1A9

Description: CD47 is an integral membrane protein that plays a role in the regulation of cation fluxes across cell membranes. Specifically, CD47 is involved in the increase in intracellular calcium concentration that occurs upon cell adhesion to the extracellular matrix. It is also a receptor for the C-terminal cell binding domain of thrombospondin (SIRP). Has a role in both cell adhesion by acting as an adhesion receptor for THBS1 on platelets, and in the modulation of integrins. CD47 is absent from Rh-null erythrocytes, but does play a role in cell adhesion in non-erythroid cells and may prevent premature elimination of erythrocytes. It may also be involved in membrane permeability changes following viral infection. Plays an important role in memory formation and synaptic plasticity in the hippocampus (By similarity). Receptor for SIRPA, binding to which prevents maturation of immature dendritic cells and inhibits cytokine production by mature dendritic cells. Interaction with SIRPG mediates cell-cell adhesion, enhances superantigen-dependent T-cell-mediated proliferation and costimulates T-cell activation. May play a role in membrane transport and/or integrin dependent signal transduction. May prevent premature elimination of red blood cells. May be involved in membrane permeability changes induced following virus infection. CD47 is expressed on hemopoietic cells, epithelial cells, endothelial cells and fibroblasts and is strongly expressed in brain and mesenchymal cells.

Immunogen:	Recombinant protein within Human CD47 aa 19-141 (Extracellular).
Positive control:	Human ovarian carcinoma tissue, human prostate tissue, SH-SY5Y.
Subcellular location:	Cell membrane, Multi-pass membrane protein.
Database links:	SwissProt: Q08722 Human
Recommended Dilutions:	
IF-Cell	1:50-1:100
IHC-P	1:200-1,000
FC	1:50-1:100
Storage Buffer:	1*PBS (pH7.4), 0.2% BSA, 50% Glycerol. Preservative: 0.05% Sodium Azide.
Storage Instruction:	Store at +4℃ after thawing. Aliquot store at -20℃ or -80℃. Avoid repeated freeze / thaw cycles.
Purity:	Protein G affinity purified.

Images

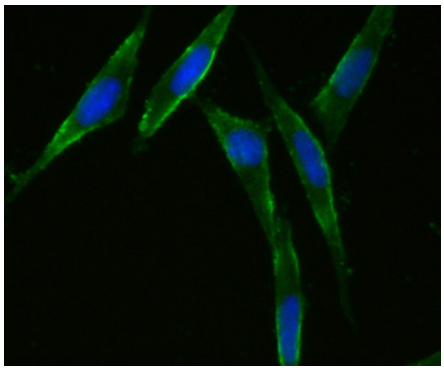

Fig1: ICC staining CD47 (green) in SH-SY5Y cells. The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

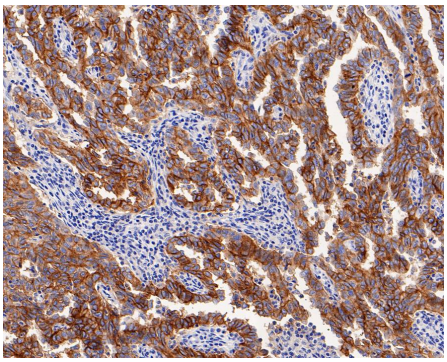

Fig2: Immunohistochemical analysis of paraffin-embedded human ovarian carcinoma tissue with Mouse anti-CD47 antibody (EM1701-38) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (EM1701-38) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

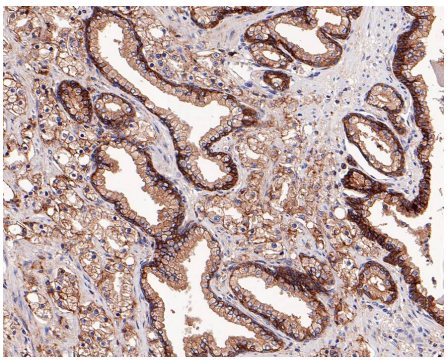

Fig3: Immunohistochemical analysis of paraffin-embedded human prostate tissue with Mouse anti-CD47 antibody (EM1701-38) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (EM1701-38) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

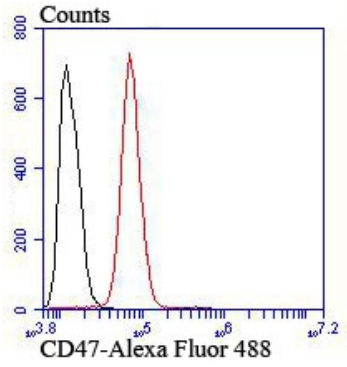

Fig4: Flow cytometric analysis of SH-SY5Y cells with CD47 antibody at 1/100 dilution (red) compared with an unlabelled control (cells without incubation with primary antibody; black).

Background References

1. Li DD et al. Late-stage inhibition of autophagy enhances calreticulin surface exposure. Oncotarget 7:80842-80854 (2016).
2. Malek MH et al. Similar skeletal muscle angiogenic and mitochondrial signalling following 8 weeks of endurance exercise in mice: discontinuous versus continuous training. Exp Physiol 98:807-18 (2013).