10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

DDR1 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1198a

Product Information

Application	WB, E
Primary Accession	Q08345
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	2G4E12
Isotype	IgG1
Calculated MW	101128
Description	DDR1: discoidin domain receptor tyrosine kinase 1. Receptor tyrosine kinases (RTKs) play a key role in the communication of cells with their microenvironment. These molecules are involved in the regulation of cell growth, differentiation and metabolism. The protein encoded by this gene is a RTK that is widely expressed in normal and transformed epithelial cells and is activated by various types of collagen. This protein belongs to a subfamily of tyrosine kinase receptors with a homology region to the Dictyostelium discoideum protein discoidin I in their extracellular domain. Its autophosphorylation is achieved by all collagens so far tested (type I to type VI). In situ studies and Northern-blot analysis showed that expression of this encoded protein is restricted to epithelial cells, particularly in the kidney, lung, gastrointestinal tract, and brain. In addition, this protein is significantly over-expressed in several human tumors from breast, ovarian, esophageal, and pediatric brain. This gene is located on chromosome 6p21.3 in proximity to several HLA class I genes. Alternative splicing of this gene results in multiple transcript variants.
Immunogen	Purified recombinant fragment of DDR1 (aa602-681) expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	780
Other Names	Epithelial discoidin domain-containing receptor 1, Epithelial discoidin domain receptor 1, 2.7.10.1, CD167 antigen-like family member A, Cell adhesion kinase, Discoidin receptor tyrosine kinase, HGK2, Mammary carcinoma kinase 10, MCK-10, Protein-tyrosine kinase 3A, Protein-tyrosine kinase RTK-6, TRK E, Tyrosine kinase DDR, Tyrosine-protein kinase CAK, CD167a, DDR1, CAK, EDDR1, NEP, NTRK4, PTK3A, RTK6, TRKE
Dilution	WB~~1/500 - 1/2000 E~~N/A

Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	DDR1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

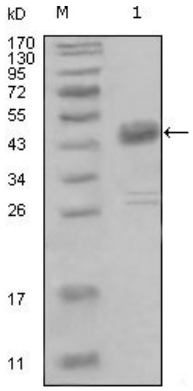
Name	DDR1
Synonyms	CAK, EDDR1, NEP, NTRK4, PTK3A, RTK6, TRK
Function	Tyrosine kinase that functions as a cell surface receptor for fibrillar collagen and regulates cell attachment to the extracellular matrix, remodeling of the extracellular matrix, cell migration, differentiation, survival and cell proliferation. Collagen binding triggers a signaling pathway that involves SRC and leads to the activation of MAP kinases. Regulates remodeling of the extracellular matrix by up-regulation of the matrix metalloproteinases MMP2, MMP7 and MMP9, and thereby facilitates cell migration and wound healing. Required for normal blastocyst implantation during pregnancy, for normal mammary gland differentiation and normal lactation. Required for normal ear morphology and normal hearing (By similarity). Promotes smooth muscle cell migration, and thereby contributes to arterial wound healing. Also plays a role in tumor cell invasion. Phosphorylates PTPN11.
Cellular Location	[Isoform 1]: Cell membrane; Single-pass type I membrane protein [Isoform 3]: Secreted.
Tissue Location	Detected in T-47D, MDA-MB-175 and HBL-100 breast carcinoma cells, A-431 epidermoid carcinoma cells, SW48 and SNU-C2B colon carcinoma cells and Hs 294T melanoma cells (at protein level) Expressed at low levels in most adult tissues and is highest in the brain, lung, placenta and kidney. Lower levels of expression are detected in melanocytes, heart, liver, skeletal muscle and pancreas Abundant in breast carcinoma cell lines. In the colonic mucosa, expressed in epithelia but not in the connective tissue of the lamina propria. In the thyroid gland, expressed in the epithelium of the thyroid follicles. In pancreas, expressed in the islets of Langerhans cells, but not in the surrounding epithelial cells of the exocrine pancreas. In kidney, expressed in the epithelia of the distal tubules Not expressed in connective tissue, endothelial cells, adipose tissue, muscle cells or cells of hematopoietic origin

References

1. FASEB J. 2000 May;14(7):973-81. 2. Exp Eye Res. 2001 Jan;72(1):87-92. 3. Proc Natl Acad Sci U S A. 2002 Dec 24;99(26):16899-903.

Images

Figure 1: Western blot analysis using DDR1 mouse mAb against truncated MBP-DDR1 recombinant protein (1).



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