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

DDR1 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7294C

Product Information

Application	IHC-P, IF, FC, WB, E
Primary Accession	Q08345
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	101128
Antigen Region	299-330

Additional Information

Gene ID	780
Other Names	Epithelial discoidin domain-containing receptor 1, Epithelial discoidin domain receptor 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
Target/Specificity	This DDR1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 299-330 amino acids from the Central region of human DDR1.
Dilution	IHC-P~~1:100~500 IF~~1:10~50 FC~~1:10~50 WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	DDR1 Antibody (Center) 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

Background

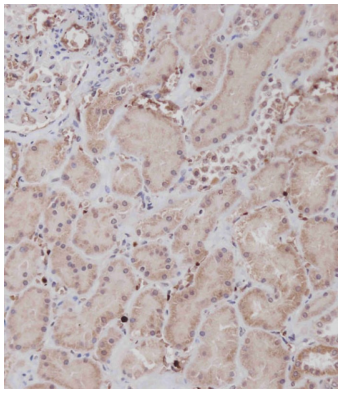
Receptor tyrosine kinases (RTKs) play a key role in the communication of cells with their microenvironment. These molecules are involved in the regulation of cell growth, differentiation and metabolism. DDR1 is an RTK that is widely expressed in normal and transformed epithelial cells and is activated by various types of collagen. It 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 show that expression of DDR1 is restricted to epithelial cells, particularly in the kidney, lung, gastrointestinal tract, and brain. In addition, it is significantly over-expressed in several human tumors from breast, ovarian, esophageal, and pediatric brain.

References

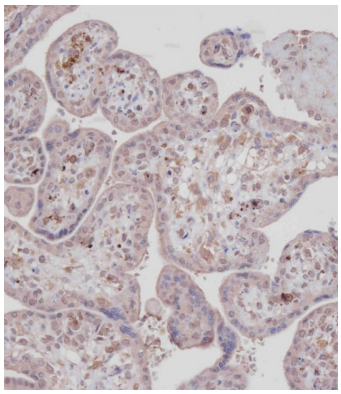
Johnson J.D.,Proc. Natl. Acad. Sci. U.S.A. 90:5677-5681(1993)
Sakuma S.,FEBS Lett. 398:165-169(1996)

Images

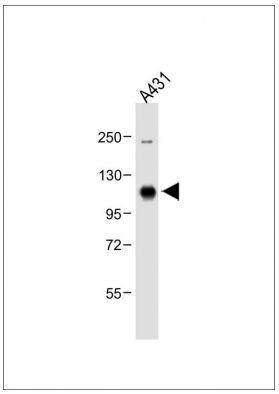
Immunohistochemical analysis of AP7294c on paraffin-embedded Human kidney tissue. Tissue was fixed with formaldehyde at room temperature. Heat induced epitope retrieval was performed by EDTA buffer (pH9. 0). Samples were incubated with primary antibody(1:100) for 1 hour at room temperature.



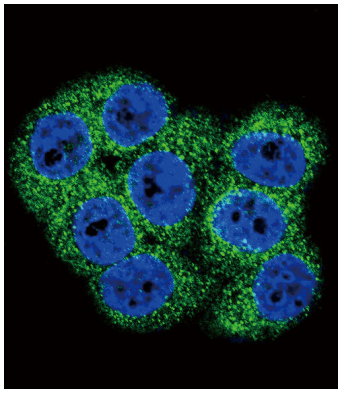
Undiluted CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.



Immunohistochemical analysis of AP7294c on paraffin-embedded Human placenta tissue. Tissue was fixed with formaldehyde at room temperature. Heat induced epitope retrieval was performed by EDTA buffer (pH9. 0). Samples were incubated with primary antibody(1:100) for 1 hour at room temperature. Undiluted CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.

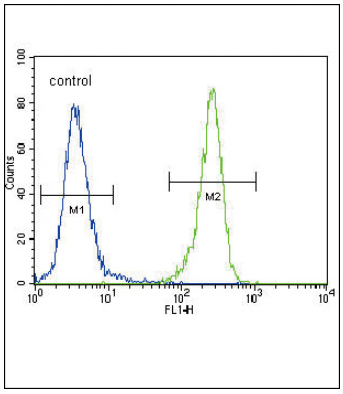


Anti-DDR1 Antibody (Center) at 1:500 dilution + A431 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 101 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Confocal immunofluorescent analysis of DDR1 Antibody (Center)(Cat#AP7294c) with 293 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green).DAPI was used to stain the cell nuclear (blue).

DDR1 Antibody (Center) (Cat. #AP7294c) flow cytometric analysis of 293 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.