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Rabbit Anti-PDGF Receptor beta/PE Conjugated antibody

SL0232R-PE

Product Name	Anti-PDGF Receptor beta/PE
Chinese Name	PE 标记的血小板源性生长因子受体 B/PDGFRβ 抗体
Alias	CD140B; Beta platelet derived growth factor receptor; Beta-type platelet-derived growth factor receptor; CD 140B; CD140 antigen-like family member B; CD140B; CD140b antigen; JTK12; OTTHUMP00000160528; PDGF R beta; PDGF-R-beta; PDGFR; PDGFR1; PDGFRB; PGFRB_HUMAN; Platelet derived growth factor receptor beta; Platelet derived growth factor receptor beta polypeptide; PDGF Receptor beta; beta-type platelet-derived growth factor receptor precursor;
Research Area	Tumour Cell biology Signal transduction Apoptosis Growth factors and hormones The cell membrane 受体
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Human,Rat(predicted:Mouse,Dog,Cow)
Applications	ICC=1:50-200 IF=1:50-200 not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight	118kDa
Cellular localization	The cell membrane
Form	Lyophilized or Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human PDGF-R-B
Lsotype	IgG
Purification	affinity purified by Protein A
Storage Buffer	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH

7.4 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Product Detail

background:
The PDGF Receptor Type A (Alpha platelet-derived growth factor receptor precursor, CD140a antigen), a 170kD protein, binds all three isoforms of PDGF with high affinity whereas the PDGF Receptor Type B, a 190kD protein, appears to bind only the PDGF BB homodimer with high affinity. Both receptors are transmembranous, ligand activated protein tyrosine kinases, which phosphorylate a number of important signal transduction proteins, which are bound with differential affinities via SH2 domains. The response of any given cell to PDGF will depend on the types of receptors displayed on the surface and isoforms of PDGF present in the extracellular environment.

Function:
Receptor that binds specifically to PDGFB and PDGFD and has a tyrosine-protein kinase activity. Phosphorylates Tyr residues at the C-terminus of PTPN11 creating a binding site for the SH2 domain of GRB2.

Subunit:
Interacts with homodimeric PDGFB and PDGFD, and with heterodimers formed by PDGFA and PDGFB. May also interact with homodimeric PDGFC. Monomer in the absence of bound ligand. Interaction with homodimeric PDGFB, heterodimers formed by PDGFA and PDGFB or homodimeric PDGFD, leads to receptor dimerization, where both PDGFRA homodimers and heterodimers with PDGFRB are observed. Interacts with SH2B2/APS. Interacts directly (tyrosine phosphorylated) with SHB. Interacts (tyrosine phosphorylated) with PIK3R1. Interacts (tyrosine phosphorylated) with CBL. Interacts (tyrosine phosphorylated) with SRC and SRC family kinases. Interacts (tyrosine phosphorylated) with PIK3C2B, maybe indirectly. Interacts (tyrosine phosphorylated) with SHC1, GRB7, GRB10 and NCK1. Interaction with GRB2 is mediated by SHC1. Interacts (via C-terminus) with SLC9A3R1.

Subcellular Location:
Cell membrane; Single-pass type I membrane protein. Cytoplasmic vesicle. Lysosome lumen. Note=After ligand binding, the autophosphorylated receptor is ubiquitinated and internalized, leading to its degradation.

Post-translational modifications:
Autophosphorylated on tyrosine residues upon ligand binding. Autophosphorylation occurs in trans, i.e. one subunit of the dimeric receptor phosphorylates tyrosine residues on the other subunit. Phosphorylation at Tyr-579, and to a lesser degree, at Tyr-581, is important for interaction with

SRC family kinases. Phosphorylation at Tyr-740 and Tyr-751 is important for interaction with PIK3R1. Phosphorylation at Tyr-751 is important for interaction with NCK1. Phosphorylation at Tyr-771 and Tyr-857 is important for interaction with RASA1/GAP. Phosphorylation at Tyr-857 is important for efficient phosphorylation of PLCG1 and PTPN11, resulting in increased phosphorylation of AKT1, MAPK1/ERK2 and/or MAPK3/ERK1, PDCD6IP/ALIX and STAM, and in increased cell proliferation. Phosphorylation at Tyr-1009 is important for interaction with PTPN11. Phosphorylation at Tyr-1009 and Tyr-1021 is important for interaction with PLCG1. Phosphorylation at Tyr-1021 is important for interaction with CBL; PLCG1 and CBL compete for the same binding site. Dephosphorylated by PTPRJ at Tyr-751, Tyr-857, Tyr-1009 and Tyr-1021.
N-glycosylated.
Ubiquitinated. After autophosphorylation, the receptor is polyubiquitinated, leading to its degradation.

DISEASE:
Note=A chromosomal aberration involving PDGFRB is found in a form of chronic myelomonocytic leukemia (CMML). Translocation t(5;12)(q33;p13) with EVT6/TEL. It is characterized by abnormal clonal myeloid proliferation and by progression to acute myelogenous leukemia (AML).
Note=A chromosomal aberration involving PDGFRB may be a cause of acute myelogenous leukemia. Translocation t(5;14)(q33;q32) with TRIP11. The fusion protein may be involved in clonal evolution of leukemia and eosinophilia.
Note=A chromosomal aberration involving PDGFRB may be a cause of juvenile myelomonocytic leukemia. Translocation t(5;17)(q33;p11.2) with SPECC1.
Defects in PDGFRB are a cause of myeloproliferative disorder chronic with eosinophilia (MPE) [MIM:131440]. A hematologic disorder characterized by malignant eosinophils proliferation. Note=A chromosomal aberration involving PDGFRB is found in many instances of myeloproliferative disorder chronic with eosinophilia. Translocation t(5;12) with ETV6 on chromosome 12 creating an PDGFRB-ETV6 fusion protein. Translocation t(5;15)(q33;q22) with TP53BP1 creating a PDGFRB-TP53BP1 fusion protein.
Note=A chromosomal aberration involving PDGFRB may be the cause of a myeloproliferative disorder (MBD) associated with eosinophilia. Translocation t(1;5)(q23;q33) that forms a PDE4DIP-PDGFRB fusion protein.
Note=A chromosomal aberration involving PGFRB is found in a patient with T-lymphoblastic lymphoma (T-ALL) and an associated myeloproliferative neoplasm (MPN) with eosinophilia. Translocation t(5;6)(q33-34;q23) with CEP85L. The translocation fuses the 5'-end of CEP85L (isoform 4) to the 3'-end of PDGFRB.

Similarity:
Belongs to the protein kinase superfamily. Tyr protein kinase family. CSF-1/PDGF receptor subfamily.
Contains 5 Ig-like C2-type (immunoglobulin-like) domains.
Contains 1 protein kinase domain.

Database links:

Entrez Gene: 5159 Human

Entrez Gene: 18596 Mouse

Entrez Gene: 24629 Rat

Omim: 173410 Human

SwissProt: P09619 Human

SwissProt: P05622 Mouse

SwissProt: Q05030 Rat

Unigene: 509067 Human

Unigene: 4146 Mouse

Unigene: 98311 Rat

Important Note:
This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.