

PDGFRA Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7666d

Product Information

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| Application | WB, IHC-P, E |
| Primary Accession | P16234 |
| Other Accession | P26619 , P20786 , P26618 , Q9PUF6 , NP_006197 |
| Reactivity | Human, Mouse, Rat |
| Predicted | Mouse, Rat, Chicken, Xenopus |
| Host | Rabbit |
| Clonality | Polyclonal |
| Isotype | Rabbit IgG |
| Clone Names | RB11101 |
| Calculated MW | 122670 |
| Antigen Region | 698-727 |

Additional Information

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| Gene ID | 5156 |
| Other Names | Platelet-derived growth factor receptor alpha, PDGF-R-alpha, PDGFR-alpha, Alpha platelet-derived growth factor receptor, Alpha-type platelet-derived growth factor receptor, CD140 antigen-like family member A, CD140a antigen, Platelet-derived growth factor alpha receptor, Platelet-derived growth factor receptor 2, PDGFR-2, CD140a, PDGFRA, PDGFR2, RHEPDGFRA |
| Target/Specificity | This PDGFRA antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 698-727 amino acids from human PDGFRA. |
| Dilution | WB~~1:1000 IHC-P~~1:100~500 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 | PDGFRA Antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

Protein Information

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| Name | PDGFRA |
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| Synonyms | PDGFR2, RHEPDGFRA |
| Function | Tyrosine-protein kinase that acts as a cell-surface receptor for PDGFA, PDGFB and PDGFC and plays an essential role in the regulation of embryonic development, cell proliferation, survival and chemotaxis. Depending on the context, promotes or inhibits cell proliferation and cell migration. Plays an important role in the differentiation of bone marrow-derived mesenchymal stem cells. Required for normal skeleton development and cephalic closure during embryonic development. Required for normal development of the mucosa lining the gastrointestinal tract, and for recruitment of mesenchymal cells and normal development of intestinal villi. Plays a role in cell migration and chemotaxis in wound healing. Plays a role in platelet activation, secretion of agonists from platelet granules, and in thrombin-induced platelet aggregation. Binding of its cognate ligands - homodimeric PDGFA, homodimeric PDGFB, heterodimers formed by PDGFA and PDGFB or homodimeric PDGFC -leads to the activation of several signaling cascades; the response depends on the nature of the bound ligand and is modulated by the formation of heterodimers between PDGFRA and PDGFRB. Phosphorylates PIK3R1, PLCG1, and PTPN11. Activation of PLCG1 leads to the production of the cellular signaling molecules diacylglycerol and inositol 1,4,5-trisphosphate, mobilization of cytosolic Ca(2+) and the activation of protein kinase C. Phosphorylates PIK3R1, the regulatory subunit of phosphatidylinositol 3-kinase, and thereby mediates activation of the AKT1 signaling pathway. Mediates activation of HRAS and of the MAP kinases MAPK1/ERK2 and/or MAPK3/ERK1. Promotes activation of STAT family members STAT1, STAT3 and STAT5A and/or STAT5B. Receptor signaling is down-regulated by protein phosphatases that dephosphorylate the receptor and its down-stream effectors, and by rapid internalization of the activated receptor. |
| Cellular Location | Cell membrane; Single-pass type I membrane protein. Cell projection, cilium {ECO:0000250 UniProtKB:P26618}. Golgi apparatus {ECO:0000250 UniProtKB:P26618} |
| Tissue Location | Detected in platelets (at protein level). Widely expressed. Detected in brain, fibroblasts, smooth muscle, heart, and embryo. Expressed in primary and metastatic colon tumors and in normal colon tissue. |

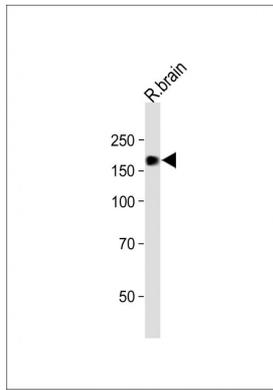
Background

PDGFRA is a cell surface tyrosine kinase receptor for members of the platelet-derived growth factor family. These growth factors are mitogens for cells of mesenchymal origin. The identity of the growth factor bound to a receptor monomer determines whether the functional receptor is a homodimer or a heterodimer, composed of both platelet-derived growth factor receptor alpha and beta polypeptides. Studies in knockout mice, where homozygosity is lethal, indicate that the alpha form of the platelet-derived growth factor receptor is particularly important for kidney development since mice heterozygous for the receptor exhibit defective kidney phenotypes.

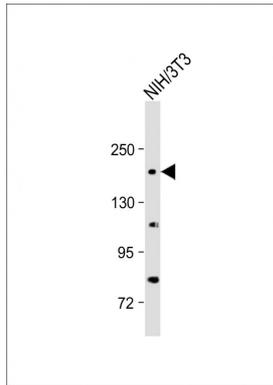
References

- Wilczynski, S.P., et al., *Hum. Pathol.* 36(3):242-249 (2005).
 Hiwatari, M., et al., *Leukemia* 19(3):476-477 (2005).
 Debiec-Rychter, M., et al., *Gastroenterology* 128(2):270-279 (2005).
 Sakurai, S., et al., *Hum. Pathol.* 35(10):1223-1230 (2004).
 Subramanian, S., et al., *Oncogene* 23(47):7780-7790 (2004).

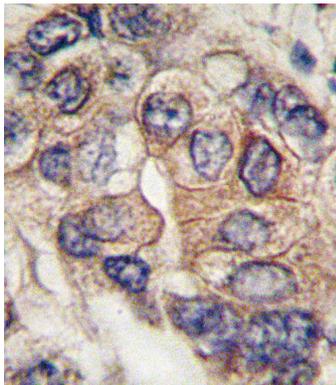
Images



All lanes : Anti-PDGFR α Antibody (Y720) at 1:2000 dilution
 Lane 1: rat brain lysate Lysates/proteins at 20 μ g per lane.
 Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size : 180kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Anti-PDGFR α Antibody (Y720) at 1:2000 dilution +
 NIH/3T3 whole cell lysate Lysates/proteins at 20 μ g per
 lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase
 conjugated at 1/10000 dilution. Predicted band size : 123
 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Formalin-fixed and paraffin-embedded human
 hepatocarcinoma tissue reacted with PDGFR α Antibody
 (Y720) (Cat.#AP7666d), which was peroxidase-conjugated
 to the secondary antibody, followed by DAB staining. This
 data demonstrates the use of this antibody for
 immunohistochemistry; clinical relevance has not been
 evaluated.

Citations

- [Down-regulation of miR-218-2 and its host gene SLIT3 cooperate to promote invasion and progression of thyroid cancer.](#)
- [Glycosylation at Asn254 Is Required for the Activation of the PDGF-C Protein.](#)

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