

## KIRAVIA Blue 520™ anti-human CD140a (PDGFR $\alpha$ ) Antibody

<b>Catalog# / Size</b>	323519 / 25 tests 323520 / 100 tests
<b>Clone</b>	16A1
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	Platelet-derived growth factor receptor, alpha polypeptide, PDGFR2, PDGFR $\alpha$ , PDGFRa, PDGF receptor alpha
<b>Isotype</b>	Mouse IgG1, $\kappa$
<b>Description</b>	<p>The 16A1 monoclonal antibody recognizes human CD140a also known as the platelet-derived growth factor receptor, alpha polypeptide, PDGFR2, and PDGFR<math>\alpha</math>. CD140a is a cell surface tyrosine kinase receptor for members of the platelet-derived growth factor family. The identity of the growth factor bound to the receptor determines whether the functional receptor is a homodimer or heterodimer composed of both PDGFR-<math>\alpha</math> and -<math>\beta</math>. CD140a contains three immunoglobulin-like domains and a tyrosine kinase domain with a predicted molecular weight of approximately 123 kD. CD140a is widely expressed on a variety of mesenchymal-derived cells and has been implicated in the development of some tumors including basal cell carcinoma and gastric stromal cell tumors. Binding of A-chain containing PDGF molecules as well as protease-activated PDGF-C molecules can stimulate cell proliferation. CD140a has been shown to interact with a number of proteins including CRK, Grb2, Grb14, SHP2, and others as integrin <math>\beta</math>3, caveolin-1, and nexin sorting molecules. The PDGFR<math>\alpha</math> is heavily phosphorylated on numerous tyrosine residues through both autophosphorylation and ligand-dependent processes. The 16A1 antibody has been shown to be useful for flow cytometric detection of CD140a.</p>

### Product Details

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<b>Verified Reactivity</b>	Human
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Immunogen</b>	NIH 3T3 cells transfected with human PDGFRalpha
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA).
<b>Preparation</b>	The antibody was purified by affinity chromatography and conjugated with KIRAVIA Blue 520™ under optimal conditions.
<b>Concentration</b>	Lot-specific (to obtain lot-specific concentration and expiration, please enter the lot number in our <a href="#">Certificate of Analysis</a> online tool.)
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">FC - Quality tested</a>
<b>Recommended Usage</b>	<p>Each lot of this antibody is quality control tested by <a href="#">immunofluorescent staining with flow cytometric analysis</a>. For flow cytometric staining, the suggested use of this reagent is 5 <math>\mu</math>L per million cells in 100 <math>\mu</math>L staining volume or 5 <math>\mu</math>L per 100 <math>\mu</math>L of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.</p>

\* KIRAVIA Blue 520™ has an excitation maximum of 495 nm, and a maximum emission of 520 nm.

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**Excitation Laser** Blue Laser (488 nm)

**Application References**

(PubMed link indicates BioLegend citation)

1. Miyazaki S et al. In: Leukocyte Typing VI Kishimoto et al. Eds, Garland Publishing Inc, New York 1998 pp 3-20.
2. Lottaz C, et al. 2010. *Cancer Res.* 70:2030. [PubMed](#)
3. Ricono JM, et al. 2009. *Am. J. Physiol. Renal Physiol.* 296:F406. (IF)
4. Guarnerio J, et al. 2015. *Cancer Discov.* 5:396. [PubMed](#)

**RRID** AB\_3683339 (BioLegend Cat. No. 323519)  
AB\_3683339 (BioLegend Cat. No. 323520)

## Antigen Details

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<b>Structure</b>	Cell surface tyrosine kinase receptor for members of the platelet-derived growth factor family.
<b>Distribution</b>	Widely expressed on a variety of mesenchymal-derived cells.
<b>Function</b>	Stimulation of cell proliferation; mitogenic activity for cells of mesenchymal origin. Knock-out studies have implicated an essential role for CD140a in kidney development. Has been implicated in basal cell carcinoma and gastric stromal cell tumors.
<b>Interaction</b>	Interacts with Crk, as well as a variety of adaptor molecules and signaling intermediates (Grb2, Grb14, SHP2, others). Has also been shown to associate with integrin $\beta$ 3, caveolin-1, and nexin sorting molecules
<b>Ligand/Receptor</b>	Binds to A-chain containing PDGF molecules and protease-activated PDGF-C molecules
<b>Modification</b>	Multiple tyrosine phosphorylation sites (Y720, Y731, Y742, Y754, Y762, Y767, Y768, Y988, Y993, Y1018)
<b>Cell Type</b>	Embryonic Stem Cells, Mesenchymal cells, Mesenchymal Stem Cells, Neural Stem Cells
<b>Biology Area</b>	Angiogenesis, Cell Biology, Immunology, Neuroscience, Neuroscience Cell Markers, Stem Cells
<b>Molecular Family</b>	CD Molecules, Cytokine/Chemokine Receptors
<b>Antigen References</b>	<ol style="list-style-type: none"><li>1. Gronwald RG, et al. 1988. <i>Proc. Natl. Acad. Sci. USA</i> 85:3435.</li><li>2. Gilbertson DG, et al. 2001. <i>J. Biol. Chem.</i> 276:27406.</li><li>3. Seifert RA, et al. 1989. <i>J. Biol. Chem.</i> 264:8771.</li><li>4. Rupp E, et al. 1994. <i>Eur. J. Biochem.</i> 225:29.</li></ol>
<b>Gene ID</b>	<a href="#">5156</a>

## Related Protocols

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- [Cell Surface Flow Cytometry Staining Protocol](#)

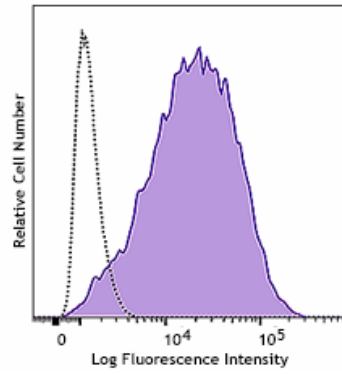
## Other Formats

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Purified anti-human CD140a (PDGFR $\alpha$ ), Biotin anti-human CD140a (PDGFR $\alpha$ ), PE anti-human CD140a (PDGFR $\alpha$ ), PE/Cyanine7 anti-human CD140a (PDGFR $\alpha$ ), TotalSeq™-A0128 anti-human CD140a (PDGFR $\alpha$ ), APC anti-human CD140a (PDGFR $\alpha$ ), TotalSeq™-C0128 anti-human CD140a (PDGFR $\alpha$ ), TotalSeq™-B0128 anti-human CD140a (PDGFR $\alpha$ ), TotalSeq™-D0128 anti-human CD140a (PDGFR $\alpha$ ), KIRAVIA Blue 520™ anti-human CD140a (PDGFR $\alpha$ ) Antibody

## Product Data

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Human PDGFR $\alpha$  transfected NIH/3T3 cells were stained with anti-human CD140a (PDGFR $\alpha$ ) (clone 16A1) KIRAVIA Blue 520™ (filled histogram) or mouse IgG1,  $\kappa$  KIRAVIA Blue 520™ isotype control (open histogram).

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