

Technical Data Sheet

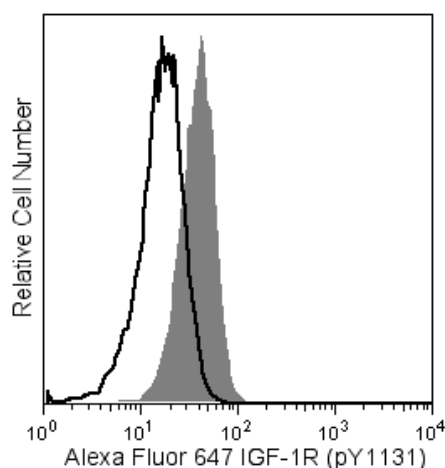
Alexa Fluor® 647 Mouse anti-IGF-1 Receptor (CD221) (pY1131)**Product Information**

Material Number:	558588
Size:	50 tests
Vol. per Test:	20 µl
Clone:	K74-218
Immunogen:	Phosphorylated Human IGF-1 Receptor
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	QC Testing: Human Predicted: Mouse, Rat
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

Insulin-like growth factor-1 (IGF-1) receptor, or CD221, is a receptor tyrosine kinase that has high affinity for IGF-1 and low affinity for insulin and IGF-2. Each transmembrane protein complex is formed from a pair of 1367 amino-acid precursor proteins. After the 30 amino-acid signal sequences are removed, the paired polypeptides are cleaved to derive an α and β chain from each. The two extracellular α chains form the ligand-binding domain, while the transmembrane-and-intracellular β chains carry the kinase activity. Upon stimulation by its ligand, IGF-1 receptor autophosphorylates multiple tyrosine sites in its β chains and phosphorylates other signaling mediators that regulate cell growth, development, and neoplastic transformation.

The K74-218 monoclonal antibody recognizes the phosphorylated tyrosine 1131 (pY1131) in the activation loop of IGF-1 receptor's kinase domain. The orthologous phosphorylation sites in mouse and rat IGF-1 receptor are Y1133 and Y1132, respectively.



Analysis of IGF-1 Receptor (pY1131) in transformed human epithelial cells. Serum-starved 293 fetal kidney cells were either stimulated at 37°C for 2 minutes with 100 nM IGF-I (Cat. No. 354037, shaded histogram) or unstimulated (open histogram). The cells were fixed with pre-warmed BD Cytotfix™ buffer (Cat. No. 554655) for 10 minutes at 37°C, then permeabilized (BD™ Phosflow Perm Buffer III, Cat. No. 558050) on ice for at least 30 minutes, and then stained with Alexa Fluor® 647 Mouse anti-IGF-1 Receptor (CD221) (pY1131). Flow cytometry was performed on a BD™ FACSCalibur flow cytometry system.

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated to Alexa Fluor® 647 under optimum conditions, and unreacted Alexa Fluor® 647 was removed.

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

Application Notes**Application**

Intracellular staining (flow cytometry)	Routinely Tested
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Suggested Companion Products

Catalog Number	Name	Size	Clone
554655	Fixation Buffer	100 ml	(none)
558050	Perm Buffer III	125 ml	(none)

Product Notices

- This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1×10^6 cells in a 100-µl experimental sample (a test).

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2. Alexa Fluor® 647 fluorochrome emission is collected at the same instrument settings as for allophycocyanin (APC).
3. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
4. The Alexa Fluor®, Pacific Blue™, and Cascade Blue® dye antibody conjugates in this product are sold under license from Molecular Probes, Inc. for research use only, excluding use in combination with microarrays, or as analyte specific reagents. The Alexa Fluor® dyes (except for Alexa Fluor® 430), Pacific Blue™ dye, and Cascade Blue® dye are covered by pending and issued patents.
5. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
6. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
7. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
8. Please refer to www.bdbiosciences.com/pharming/protocols for technical protocols.

References

- Brodt P, Fallavollita L, Khatib A-M, Samani AA, Zhang, D. Cooperative regulation of the invasive and metastatic phenotypes by different domains of the type I insulin-like growth factor receptor β subunit. *J Biol Chem.* 2001; 276(36):33608-33615. (Biology)
- Dufresne AM, Smith RJ. The adapter protein Grb10 is an endogenous negative regulator of insulin-like growth factor signaling. *Endocrinology.* 2005; :In press. (Biology)
- Mitsiades CS, Mitsiades NS, McMullan CJ, et al. Inhibition of the insulin-like growth factor receptor-1 tyrosine kinase activity as a therapeutic strategy for multiple myeloma, other hematologic malignancies, and solid tumors. *Cancer Cell.* 2004; 5:221-230. (Biology)
- Ullrich A, Gray A, Tam AW, et al. Insulin-like growth factor I receptor primary structure: comparison with insulin receptor suggests structural determinants that define functional specificity. *EMBO J.* 1986; 5(10):2503-2512. (Biology)