Alexa Fluor® 647 Mouse anti-PLC-γ2

Description

The Phospholipase C (PLC) isoenzymes hydrolyze phosphatidylinositol bisphosphate to inositol triphosphate and diacylglycerol. The former causes release of calcium from the endoplasmic reticulum, while the latter is an activator of Protein Kinase C. Within the PLC family, PLC-γ is the only member that contains SH2 and SH3 domains. These domains enable it to interact with receptor tyrosine kinases and become enzymatically activated via phosphorylation. It exists as two isoforms: 1) PLC-γ1, which is ubiquitously expressed, and 2) PLC-γ2, found primarily in the lymphoid system. PLC-γ is essential for growth factor-induced cell motility and mitogenesis. Overexpression of PLC-γ is evident in several forms of cancer, and it has been identified as a key mediator of PDGF-dependent cellular transformation. Thus regulation of PLC-γ activity by growth factors is involved in cell growth and transformation.

Although the immunogen for generation of the K86-1161 monoclonal antibody was a phosphorylated peptide, peptide blocking studies demonstrated that the mAb recognizes PLC-γ2 regardless of phosphorylation status. This antibody was raised to a unique region of PLC-γ2 and is predicted not to crossreact with PLC-γ1.

Preparation and Storage

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

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.

Flow cytometry was performed on a BD FACSCalibur™ flow cytometry system.
### Application Notes

**Application**

| Intracellular staining (flow cytometry) | Routinely Tested |

**Recommended Assay Procedure:**

This PLC-γ2-specific antibody conjugate may be used with conjugates of anti-PLC-γ2 (pY759) mAb K86-689.37 to distinguish the expression of total versus phosphorylated PLC-γ2.

This antibody conjugate is suitable for intracellular staining of human whole blood and mouse splenocytes using the BD Phosflow™ Lyse/Fix Buffer and the BD Phosflow™ Perm Buffer II.

### Suggested Companion Products

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### Product Notices

1. 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).
2. An isotype control should be used at the same concentration as the antibody of interest.
3. 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.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
5. Alexa Fluor® 647 fluorochrome emission is collected at the same instrument settings as for allophycocyanin (APC).
6. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
7. 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.
8. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
9. Cy is a trademark of GE Healthcare.
10. Species testing during development may have been performed with a different format of the same clone. Selected applications have been tested for cross-reactivity.

### References

Kim YJ, Sekiya F, Poulin B, Bae YS, Rhee SG. Mechanism of B-cell receptor-induced phosphorylation and activation of phospholipase C-γ2. *Mol Cell Biol.* 2004; 24(22):9898-9909. (Biology)


