# Recombinant Human Phosphoinositide-3-kinase, Regulatory Subunit 2 (Beta)

**Cat. No.** PIK3R2-51H **Lot. No.** (See product label)

## SPECIFICATION

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| **Product Overview** | Recombinant Human Phosphoinositide 3-kinase beta produced in*Sf9*is a glycosilated protein having a molecular weight as follows: p85α chain 83.5 kDa, p110β chain 124.3 kDa. |
| **Species** | Human |
| **Source** | Sf9 Cells |
| **Description** | The PI3Kb isoform can be activated by insulin via the insulin receptor to initiate a cascade of events that control cell growth and metabolism. The activation of PI3Kb is mediated by the p85 regulatory subunit binding to tyrosine phosphorylated insulin receptor substrate (IRS) proteins (e.g. IRS-1 and IRS-2). It was also shown that PI3Kb is involved in apoptosis in human colon carcinoma cells. Injection of neutralizing antibodies specific to p110b in WiDr, HCT116 and CO 115 adenocarcinoma cells inhibited de novo DNA synthesis. PI3Kb is the major PI3K isoform required for apoptotic cell and Fc-g receptor mediated phagocytosis shown for primary mouse macrophages and the Jurkat human leukemia T cell line. It was shown by several research groups that the catalytic subunit of PI3Kb can be activated by Gbg subunits of G-protein coupled receptors. |
| **Physical Appearance** | Sterile filtered liquid formualtion. |
| **Purity** | Greater than 90.0% as determined by SDS Page. |

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

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| **Formulation** | 0.5 mg/ml solution in 10mM Hepes, pH 7.5, 100mM NaCl, 2.5mM $MgCl_2$, and 50% glycerol. |
| **Biological Activity** | 3 nmol/mg/min using phosphatidylinositol as the substrate. |
| **Storage** | PI3Kb although stable at 14℃for 1 week, should be stored desiccated below -18℃. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles. |

## GENE INFORMATION

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| **Gene Name** | PIK3R2 phosphoinositide-3-kinase, regulatory subunit 2 (beta) [ Homo sapiens ] |
| **Synonyms** | PIK3R2; phosphoinositide-3-kinase, regulatory subunit 2 (beta); p85; P85B; p85-BETA; phosphoinositide-3-kinase, regulatory subunit 2 (p85 beta); phosphoinositide-3-kinase, regulatory subunit, polypeptide 2 (p85 beta); phosphatidylinositol 3-kinase, regulatory subunit, polypeptide 2 (p85 beta); Phosphatidylinositol 3-kinase regulatory subunit beta; PI3-kinase p85 subunit beta; PtdIns-3-kinase p85-beta |
| **Gene ID** | 5296 |
| **mRNA Refseq** | NM_005027 |
| **Protein Refseq** | NP_005018 |
| **MIM** | 603157 |
| **UniProt ID** | O00459 |
| **Chromosome Location** | 19q13.2-q13.4 |

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| **Pathway** | Acute myeloid leukemia; Apoptosis; B cell receptor signaling pathway; Chemokine signaling pathway; Chronic myeloid leukemia; Colorectal cancer; Endometrial cancer; ErbB signaling pathway; Fc epsilon RI signaling pathway; Fc gamma R-mediated phagocytosis; Focal adhesion; Glioma; Insulin signaling pathway; Jak-STAT signaling pathway; Leukocyte transendothelial migration; Melanoma; Natural killer cell mediated cytotoxicity; Neurotrophin signaling pathway; Non-small cell lung cancer; Pancreatic cancer; Pathways in cancer; Phosphatidylinositol signaling system; Prostate cancer; Regulation of actin cytoskeleton; Renal cell carcinoma; Small cell lung cancer; T cell receptor signaling pathway; Toll-like receptor signaling pathway; Type II diabetes mellitus; VEGF signaling pathway; mTOR signaling pathway; Hemostasis; Signaling by Insulin receptor; Signaling by PDGF; Signaling by Rho GTPases; Signaling in Immune system; Signalling by NGF |
| **Function** | 1-phosphatidylinositol-3-kinase activity; phosphoinositide 3-kinase regulator activity; protein binding |

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