PI3 kinase (p110 $\beta$ /p85 $\alpha$ ), FLAG-Tag Recombinant

## **Product Information**

Background:PI3 (phosphoinositide 3) kinases, or phosphatidylinositol 3 kinases, are a family of proteins that can be subdivided into four classes: I, II, III and IV. Class I is involved in converting PI (4, 5) P2 (phosphatidylinositol (4, 5)-biphosphate) into PI (3, 4, 5) P3 (phosphatidylinositol (3, 4, 5)-triphosphate) when activated by tyrosine kinase receptors and G-protein coupled receptors. They are heterodimeric proteins with a a regulatory and a catalytic subunit. The heterodimer between p110 (catalytic subunit) and p85 (regulatory subunit) belongs to class IA. p110 and p85 have three variants each. Class I PI3K participates in cell signaling, mostly via the activation of PKB (protein kinase B) and the PI3K/AKT/mTOR pathway. Dysfunction of these kinases impacts cell growth and differentiation, and mutations in p110α have been linked to cancer. At least three isoform-specific inhibitors are approved by FDA for the treatment of lymphoma and leukemia. Further studies will help identify more selective inhibitors with a good tolerance that can bypass the development of drug resistance.Species:Human Construct:P13 kinase (p110β (FLAG-2-1070(end)) / p85α (1-724(end))) Occentration: 0.24 mg/mlConstruct:P13 kinase (p110β (FLAG-2-1070(end)) / p85α (1-724(end)))Concentration:0.24 mg/mlKyression System:Sf9Purity:290%Formati:Aqueous buffer solution. Formati: A tleast 6 months at -80°C.MW:p110β: 124 kDa; p85α: 84 kDa Genbank Accession:p110β: NM_006219; p85α: NM_181523Stability:At least 6 months at -80°C.Storage:-80°CInstructions for Use:Thaw on ice and gently mix prior to use. DO NOT VORTEX. Perform a quick spin before opening. Aliquot	Description:	Complex of human PI3 kinase p110 $\beta$ , full-length, and human p85 $\alpha$ , full length. The p110 $\beta$ construct contains an N-terminal FLAG-tag whereas p85 $\alpha$ has no tag. The two recombinant proteins were co-expressed and affinity purified as a complex.
Construct:PI3 kinase (p110β (FLAG-2-1070(end)) / p85α (1-724(end)))Concentration:0.24 mg/mlExpression System:Sf9Purity:≥90%Format:Aqueous buffer solution.Formulated In:25 mM Tris-HCl, pH 8.0, 69 mM NaCl, 1.35 mM KCl, 0.025% Tween-20, 3 mM DTT, 0.05 mg/ml FLAG peptide, and 50% GlycerolMW:p110β: 124 kDa; p85α: 84 kDaGenbank Accession:p110β: NM_006219; p85α: NM_181523Stability:At least 6 months at -80°C.Storage:-80°CInstructions for Use:Thaw on ice and gently mix prior to use. DO NOT VORTEX. Perform a quick spin before opening. Aliquot into small volumes and flash freeze for long term storage. Avoid multiple freeze/thaw cycles.Specific Activity:250 pmole/min/µgAssay Conditions:Assay was done in Kinase Buffer using 200 µM PI-3 Kinase Lipid Substrate (BPS Bioscience #40560) and 100 µM ATP. Reaction was done for 16 minutes at 30°C then developed using ADP-GIo <sup>™</sup> Kinase Assay (Promega #V6930).	Background:	converting PI (4, 5) P2 (phosphatidylinositol (4, 5)-biphosphate) into PI (3, 4, 5) P3 (phosphatidylinositol (3, 4, 5)-triphosphate) when activated by tyrosine kinase receptors and G-protein coupled receptors. They are heterodimeric proteins with a regulatory and a catalytic subunit. The heterodimer between p110 (catalytic subunit) and p85 (regulatory subunit) belongs to class IA. p110 and p85 have three variants each. Class I PI3K participates in cell signaling, mostly via the activation of PKB (protein kinase B) and the PI3K/AKT/mTOR pathway. Dysfunction of these kinases impacts cell growth and differentiation, and mutations in p110 $\alpha$ have been linked to cancer. At least three isoform-specific inhibitors are approved by FDA for the treatment of lymphoma and leukemia. Further studies will help identify more selective inhibitors with a good
Construct:PI3 kinase (p110β (FLAG-2-1070(end)) / p85α (1-724(end)))Concentration:0.24 mg/mlExpression System:Sf9Purity:≥90%Format:Aqueous buffer solution.Formulated In:25 mM Tris-HCl, pH 8.0, 69 mM NaCl, 1.35 mM KCl, 0.025% Tween-20, 3 mM DTT, 0.05 mg/ml FLAG peptide, and 50% GlycerolMW:p110β: 124 kDa; p85α: 84 kDaGenbank Accession:p110β: NM_006219; p85α: NM_181523Stability:At least 6 months at -80°C.Storage:-80°CInstructions for Use:Thaw on ice and gently mix prior to use. DO NOT VORTEX. Perform a quick spin before opening. Aliquot into small volumes and flash freeze for long term storage. Avoid multiple freeze/thaw cycles.Specific Activity:250 pmole/min/µgAssay Conditions:Assay was done in Kinase Buffer using 200 µM PI-3 Kinase Lipid Substrate (BPS Bioscience #40560) and 100 µM ATP. Reaction was done for 16 minutes at 30°C then developed using ADP-GIo <sup>™</sup> Kinase Assay (Promega #V6930).	Species:	
Concentration:0.24 mg/mlExpression System:Sf9Purity:≥90%Format:Aqueous buffer solution.Formulated In:25 mM Tris-HCl, pH 8.0, 69 mM NaCl, 1.35 mM KCl, 0.025% Tween-20, 3 mM DTT, 0.05 mg/ml FLAG peptide, and 50% GlycerolMW:p110β: 124 kDa; p85α: 84 kDaGenbank Accession:p110β: NM_006219; p85α: NM_181523Stability:At least 6 months at -80°C.Storage:-80°CInstructions for Use:Thaw on ice and gently mix prior to use. DO NOT VORTEX. Perform a quick spin before opening. Aliquot into small volumes and flash freeze for long term storage. Avoid multiple freeze/thaw cycles.Specific Activity:Assay Conditions:Assay Conditions:Assay was done in Kinase Buffer using 200 µM PI-3 Kinase Lipid Substrate (BPS Bioscience #40560) and 100 µM ATP. Reaction was done for 16 minutes at 30°C then developed using ADP-Glo™ Kinase Assay (Promega #V6930).	•	PI3 kinase (p110β (FLAG-2-1070(end)) / p85α (1-724(end)))
Expression System:Sf9Purity:≥90%Format:Aqueous buffer solution.Formatied In:25 mM Tris-HCl, pH 8.0, 69 mM NaCl, 1.35 mM KCl, 0.025% Tween-20, 3 mM DTT, 0.05 mg/ml FLAG peptide, and 50% GlycerolMW:p110β: 124 kDa; p85α: 84 kDaGenbank Accession:p110β: 124 kDa; p85α: NM_181523Stability:At least 6 months at -80°C.Storage:-80°CInstructions for Use:Thaw on ice and gently mix prior to use. DO NOT VORTEX. Perform a quick spin before opening. Aliquot into small volumes and flash freeze for long term storage. Avoid multiple freeze/thaw cycles.Specific Activity:250 pmole/min/µgAssay Conditions:Assay was done in Kinase Buffer using 200 µM PI-3 Kinase Lipid Substrate (BPS Bioscience #40560) and 100 µM ATP. Reaction was done for 16 minutes at 30°C then developed using ADP-Glo™ Kinase Assay (Promega #V6930).	Concentration:	
Purity:≥90%Format:Aqueous buffer solution.Formulated In:25 mM Tris-HCl, pH 8.0, 69 mM NaCl, 1.35 mM KCl, 0.025% Tween-20, 3 mM DTT, 0.05 mg/ml FLAG peptide, and 50% GlycerolMW:p110β: 124 kDa; p85α: 84 kDaGenbank Accession:p110β: NM_006219; p85α: NM_181523Stability:At least 6 months at -80°C.Storage:-80°CInstructions for Use:Thaw on ice and gently mix prior to use. DO NOT VORTEX. Perform a quick spin before opening. Aliquot into small volumes and flash freeze for long term storage. Avoid multiple freeze/thaw cycles.Specific Activity:250 pmole/min/µgAssay Conditions:Assay was done in Kinase Buffer using 200 µM PI-3 Kinase Lipid Substrate (BPS Bioscience #40560) and 100 µM ATP. Reaction was done for 16 minutes at 30°C then developed using ADP-Glo™ Kinase Assay (Promega #V6930).	Expression System:	
Format:Aqueous buffer solution.Formulated In:25 mM Tris-HCl, pH 8.0, 69 mM NaCl, 1.35 mM KCl, 0.025% Tween-20, 3 mM DTT, 0.05 mg/ml FLAG peptide, and 50% GlycerolMW:p110β: 124 kDa; p85α: 84 kDaGenbank Accession:p110β: NM_006219; p85α: NM_181523Stability:At least 6 months at -80°C.Storage:-80°CInstructions for Use:Thaw on ice and gently mix prior to use. DO NOT VORTEX. Perform a quick spin before opening. Aliquot into small volumes and flash freeze for long term storage. Avoid multiple freeze/thaw cycles.Specific Activity:250 pmole/min/µgAssay Conditions:Assay was done in Kinase Buffer using 200 µM PI-3 Kinase Lipid Substrate (BPS Bioscience #40560) and 100 µM ATP. Reaction was done for 16 minutes at 30°C then developed using ADP-Glo™ Kinase Assay (Promega #V6930).		≥90%
MW:0.05 mg/ml FLAG peptide, and 50% GlycerolMW:p110β: 124 kDa; p85α: 84 kDaGenbank Accession:p110β: NM_006219; p85α: NM_181523Stability:At least 6 months at -80°C.Storage:-80°CInstructions for Use:Thaw on ice and gently mix prior to use. DO NOT VORTEX. Perform a quick spin before opening. Aliquot into small volumes and flash freeze for long term storage. Avoid multiple freeze/thaw cycles.Specific Activity:250 pmole/min/µgAssay Conditions:Assay was done in Kinase Buffer using 200 µM PI-3 Kinase Lipid Substrate (BPS Bioscience #40560) and 100 µM ATP. Reaction was done for 16 minutes at 30°C then developed using ADP-Glo™ Kinase Assay (Promega #V6930).	•	Aqueous buffer solution.
Genbank Accession:p110β: NM_006219; p85α: NM_181523Stability:At least 6 months at -80°C.Storage:-80°CInstructions for Use:Thaw on ice and gently mix prior to use. DO NOT VORTEX. Perform a quick spin before opening. Aliquot into small volumes and flash freeze for long term storage. Avoid multiple freeze/thaw cycles.Specific Activity:250 pmole/min/µgAssay Conditions:Assay was done in Kinase Buffer using 200 µM PI-3 Kinase Lipid Substrate (BPS Bioscience #40560) and 100 µM ATP. Reaction was done for 16 minutes at 30°C then developed using ADP-Glo™ Kinase Assay (Promega #V6930).	Formulated In:	
Stability:At least 6 months at -80°C.Storage:-80°CInstructions for Use:Thaw on ice and gently mix prior to use. DO NOT VORTEX. Perform a quick spin before opening. Aliquot into small volumes and flash freeze for long term storage. Avoid multiple freeze/thaw cycles.Specific Activity:250 pmole/min/µgAssay Conditions:Assay was done in Kinase Buffer using 200 µM PI-3 Kinase Lipid Substrate (BPS Bioscience #40560) and 100 µM ATP. Reaction was done for 16 minutes at 30°C then developed using ADP-Glo™ Kinase Assay (Promega #V6930).	MW:	p110β: 124 kDa; p85α: 84 kDa
Storage: Instructions for Use:-80°CSpecific Activity:Thaw on ice and gently mix prior to use. DO NOT VORTEX. Perform a quick spin before opening. Aliquot into small volumes and flash freeze for long term storage. Avoid multiple freeze/thaw cycles.Specific Activity:250 pmole/min/µgAssay Conditions:Assay was done in Kinase Buffer using 200 µM PI-3 Kinase Lipid Substrate (BPS Bioscience #40560) and 100 µM ATP. Reaction was done for 16 minutes at 30°C then developed using ADP-Glo™ Kinase Assay (Promega #V6930).	Genbank Accession:	p110β: NM_006219; p85α: NM_181523
Instructions for Use:Thaw on ice and gently mix prior to use. DO NOT VORTEX. Perform a quick spin before opening. Aliquot into small volumes and flash freeze for long term storage. Avoid multiple freeze/thaw cycles.Specific Activity:250 pmole/min/µgAssay Conditions:Assay was done in Kinase Buffer using 200 µM PI-3 Kinase Lipid Substrate (BPS Bioscience #40560) and 100 µM ATP. Reaction was done for 16 minutes at 30°C then developed using ADP-Glo™ Kinase Assay (Promega #V6930).	Stability:	At least 6 months at -80°C.
<ul> <li>opening. Aliquot into small volumes and flash freeze for long term storage. Avoid multiple freeze/thaw cycles.</li> <li>Specific Activity: 250 pmole/min/μg</li> <li>Assay Conditions: Assay was done in Kinase Buffer using 200 μM PI-3 Kinase Lipid Substrate (BPS Bioscience #40560) and 100 μM ATP. Reaction was done for 16 minutes at 30°C then developed using ADP-Glo<sup>™</sup> Kinase Assay (Promega #V6930).</li> </ul>	Storage:	-80°C
Assay Conditions:Assay was done in Kinase Buffer using 200 μM PI-3 Kinase Lipid Substrate (BPS Bioscience #40560) and 100 μM ATP. Reaction was done for 16 minutes at 30°C then developed using ADP-Glo™ Kinase Assay (Promega #V6930).	Instructions for Use:	opening. Aliquot into small volumes and flash freeze for long term storage. Avoid
Bioscience #40560) and 100 µM ATP. Reaction was done for 16 minutes at 30°C then developed using ADP-Glo™ Kinase Assay (Promega #V6930).	Specific Activity:	250 pmole/min/μg
Applications: Useful for the study of enzyme kinetics, screening inhibitors, and selectivity profiling.	Assay Conditions:	Bioscience #40560) and 100 $\mu$ M ATP. Reaction was done for 16 minutes at 30°C then
	Applications:	Useful for the study of enzyme kinetics, screening inhibitors, and selectivity profiling.



## PI3 kinase (p110 $\beta$ /p85 $\alpha$ ), FLAG-Tag Recombinant

Quality Control Data



