

Pik3cb RBD mutant Mouse

Catalogue number: 153453

Sub-type: Mouse

Images:

Contributor

Inventor: Julian Downward

Institute: Cancer Research UK, London Research Institute: Lincoln's Inn Fields

Images:

Tool details

***FOR RESEARCH USE ONLY**

Name: Pik3cb RBD mutant Mouse

Alternate name: Phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit beta, p111?

Class:

Conjugate:

Description: Pik3cb (phosphatidylinositol 3-kinase, catalytic, beta polypeptide; also called p110) is implicated in G-protein-coupled receptor (GPCR) signaling, PTEN-loss-driven cancers, and thrombocyte function. RAC1 and CDC42 (from the RHO subfamily of small GTPases) bind and activate PIK3CB via its RAS binding domain (RBD), but PIK3CB does not bind RAS. S205D and K224A point mutations were introduced to the catalytic subunit of the mouse Pik3cb gene, disrupting interactions with Ras family GTPases. In vitro, the basal lipid kinase activity of purified recombinant protein is indistinguishable from its wildtype counterpart. Cells from mice carrying mutations in the PIK3CB RBD show reduced phosphoinositide 3-kinase (PI3K) activity and defective chemotaxis. Mouse embryonic fibroblasts (MEFs) from these mice show reduced PI3K and these mice are resistant to bleomycin-induced lung fibrosis. Full mouse strain name B6(SJL)-Pik3cbtm1.1Jdo/J

Purpose:

Parental cell:

Organism:

Tissue:

Model: Mutant

Gender:

Isotype:

Reactivity:

Selectivity:

Host:

Immunogen:

Immunogen UNIPROT ID:

Sequence:

Growth properties:

Production details: S205D (AGT->GAT) and K224A (AAA->GCA) point mutations were introduced to

the catalytic subunit of the gene and an FRT-flanked neomycin selection cassette was inserted in intron 6. The targeting construct was introduced to C57BL/6-derived embryonic stem cells. The neomycin selection cassette was excised through crosses with Tg(ACTFLPe)9205Dym deleter mice, leaving a single FRT site in intron 6/7, which may be used for PCR genotyping. This strain was backcrossed to C57BL/6J for at least 8 generations by the donating laboratory.

Formulation:

Recommended controls:

Bacterial resistance:

Selectable markers:

Additional notes:

Target details

Target: Pik3cb

Target alternate names:

Target background:

Molecular weight:

Ic50:

Applications

Application:

Application notes:

Handling

Format:

Concentration:

Passage number:

Growth medium:

Temperature:

Atmosphere:

Volume:

Storage medium:

Storage buffer:

Storage conditions:

Shipping conditions: Embryo/Spermatozoa- Dry Ice

Related tools

Related tools:

References

References: Gupta et al. 2007. Cell. 129(5):957-68. PMID: 17540175. ; Binding of ras to phosphoinositide 3-kinase p110alpha is required for ras-driven tumorigenesis in mice.

CancerTools.org