

KPC Cell Line (mixed genetic background)

Catalogue number: 153600

Sub-type: Continuous

Images:

Contributor

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Images:

Tool details

***FOR RESEARCH USE ONLY**

Name: KPC Cell Line (mixed genetic background)

Alternate name: PDAC cell line

Class:

Conjugate:

Description: The KPC mouse is an established and clinically relevant model of pancreatic ductal adenocarcinoma (PDA) which develops many key features observed in human PDA including pancreatic intraepithelial neoplasia alongside a robust inflammatory reaction including exclusion of effector T cells. Metastases are observed in around 80% of KPC animals located primarily in the liver and lungs. Mutations in both KRAS and TP53 genes are found in around 80% and 70% of all human PDAs respectively. Tumours present in KPC mice display many immuno-histological markers of PDA as well as possessing complex genomic rearrangements a key sign of genomic instability. The co-morbidities, cachexia, jaundice and ascites, associated with human PDA are also observed in this model and most pancreatic tumours are resistant to chemotherapy. The KPC mouse contains a conditional point mutation in the transformation related protein 53 gene (TP53R172H), and a point mutation in the KRAS gene (KRASG12D) both of which generate non-functional proteins. A lox-stop-lox termination sequence is encoded upstream of both mutated genes to prevent expression in the absence of Cre recombinase. PDX1 (pancreatic and duodenal homeobox 1) is a transcription factor necessary for pancreatic development. The PDX1 promoter enables expression of Cre recombinase in acini, islet and duct cells of the pancreas. Cre-mediated recombination excises the two lox-stop-lox termination sequences and enables expression of both oncogenes: KRASG12D and TP53R172H in pancreatic tissue. Tissues not expressing Cre recombinase remain functionally heterozygous of the KRAS and TP53 loci.

Purpose:

Parental cell:

Organism: Mouse

Tissue:

Model: Transgenic

Gender:

Isotype:

Reactivity:

Selectivity:

Host:

Immunogen:

Immunogen UNIPROT ID:

Sequence:

Growth properties:

Production details:

Formulation:

Recommended controls:

Bacterial resistance:

Selectable markers:

Additional notes: These cells are from mice with a mixed genetic background KPC Subtype: C57Bl6/J

Target details

Target: TP53, KRAS

Target alternate names:

Target background:

Molecular weight:

Ic50:

Applications

Application:

Application notes: These cells are from mice with a mixed genetic background KPC Subtype: C57Bl6/J

Handling

Format: Frozen

Concentration:

Passage number:

Growth medium: They all grow in DMEM (+10% FCS, 1% L-Glut and 1% Pen/strep). They may take a wee bit of time coming back up, don't panic, just be gentle with them.

Temperature:

Atmosphere:

Volume:

Storage medium:

Storage buffer:

Storage conditions: Liquid Nitrogen

Shipping conditions: Dry ice

Related tools

Related tools: KPC Cell Line (C57/BL6 genetic background)

References

References: Bennett et al. 1987. Int J Cancer. 39(3):414-8. PMID: 3102392. ; A line of non-tumorigenic mouse melanocytes, syngeneic with the B16 melanoma and requiring a tumour promoter for growth.

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