

KLRK1-/- (NKG2D-DEFICIENT) MOUSE STRAIN

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BRIEF DESCRIPTION

Gene targeted B6 strain mice in which the Klrk1 gene, which encodes the NKG2D immunoreceptor, is inactivated. On the C57Bl/6J genetic background.

Strain name: B6.Cg-Klrk1tm1Dhr

The inventors provided the first characterization of NKG2D-deficient mice, including evidence that NKG2D was not necessary for NK cell development but was critical for immunosurveillance of epithelial and lymphoid malignancies in two transgenic models of de novo tumorigenesis. In both models, the inventors detected NKG2D ligands on the tumor cell surface ex vivo, providing needed evidence for ligand expression by primary tumors.

Ligands for the NKG2D stimulatory receptor are frequently upregulated on tumor lines, rendering them sensitive to natural killer (NK) cells, but this mouse represents the first spontaneous cancer model addressing the role of NKG2D in tumor surveillance.

SUGGESTED USES

These Klrk1 knock-out mice are suitable for use in applications related to the study of natural killer cell-mediated lysis.

ADVANTAGES

This invention offers the first genetic evidence for surveillance of primary tumors by a natural killer cell-associated receptor. These Klrk1 knock-out mice exhibit subtle changes in the expression of certain NK cell regulatory molecules.

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OTHER INFORMATION

KEYWORDS

natural killer cells, mouse model, NK cell

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