Transgenic Mice for Endothelial Cell Research (Ve-Cadherin Cre-Recombinase - Rosa26r-LacZ)

Tech ID: 23173 / UC Case 2011-723-0

SUMMARY

UCLA researchers have developed a dual transgenic animal that enables genetic tracing of endothelial cells and their derivatives.

BACKGROUND

Disturbances in endothelial gene expression contribute to vascular morphogenesis and tumor growth. Over the past century, the mouse has emerged as the premier mammalian model system for genetic research. Its genetic and physiological similarities to humans, as well as the ease with which its genome can be manipulated, make it especially attractive as models for human disease. Thus, mouse models that enable genetic tracing of endothelial cells would be of great use to vascular biologists.

INNOVATION

UCLA researchers have developed a dual transgenic animal that enables genetic tracing of endothelial cells and their derivatives. Specifically, endothelial cells are labeled with LacZ, and VE-Cadherin, an endothelial-specific promoter, drives Cre-recombinase.

APPLICATIONS

Use as a model system to investigate endothelial gene expression in the context of either physiological or pathological conditions

ADVANTAGES

Endothelial-specific gene recombination ensures that only endothelial cells are labeled with LacZ

STATE OF DEVELOPMENT

The mouse model has been developed, validated, and communicated to the scientific community.

RELATED MATERIALS

- Related Papers (Selected): Zovein AC, Hofmann JJ, Lynch M, French WJ, Turlo KA, Yang Y, Becker MS, Zanetta L, Dejana E, Gasson JC, Tallquist MD, Iruela-Arispe ML. Fate tracing reveals the endothelial origin of hematopoietic stem cells. Cell Stem Cell. 2008 Dec 4;3(6):625-36.

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Dual Transgenic Mice for Endothelial Cell Research (Ve-Cadherin Cre-Recombinase - Rosa26r-YFP)
- Floxed Mouse for Progesterone Receptor (PRCE)
- VE-cadherin-CreERT2 Transgenic Mouse
- VE-Cadherin-Cre-recombinase Transgenic Mouse

CONTACT

UCLA Technology Development Group
ncd@tdg.ucla.edu
tel: 310.794.0558.

INVENTORS

- Iruela Arispe, Luisa

OTHER INFORMATION

KEYWORDS

Mouse model, endothelial cells, LacZ

CATEGORIZED AS

- **Medical**
  - Research Tools

RELATED CASES

2011-723-0

UCLA Technology Development Group

10889 Wilshire Blvd., Suite 920,Los Angeles,CA 90095

https://tdg.ucla.edu

Tel: 310.794.0558 | Fax: 310.794.0638 | ncd@tdg.ucla.edu