Mdr1a/b-Bcrp Knock Out Mouse

Catalogue number: 153415
Sub-type: Mouse
Images:

Contributor

Inventor: Alfred Schinkel
Institute: Netherlands Cancer Institute
Images:

Tool details

***FOR RESEARCH USE ONLY**

Name: Mdr1a/b-Bcrp Knock Out Mouse

Alternate name: p-glycoprotein 1, permeability glycoprotein 1, P-gp, pgp, MDR1, ABCB1, CD243 p-glycoprotein 3, BCRP/ABCG2, ATP-binding cassette sub-family G member 2, CDw338,

Class:
Conjugate:
Description: P-gp, a member of the MDR/TAP subfamily, is a glycoprotein encoded in humans by the ABCB1 gene. P-gp is a well-characterized ABC-transporter responsible for transporting a wide variety of substrates across extra- and intracellular membranes.The normal excretion of xenobiotics back into the gut lumen by P-gp pharmacokinetically reduces the efficacy of some pharmaceutical drugs and in addition, some cancer cells also express large amounts of P-gp which can further enhance that effect. This makes some cancers multi-drug resistant.
Purpose:
Parental cell:
Organism:
Tissue:
Model: Conditional KO
Gender:
Isotype:
Reactivity:
Selectivity:
Host:
Immunogen:
Immunogen UNIPROT ID:
Sequence:
Growth properties:
Production details:

This model was generated by breeding the Mdr1a/b mutated mouse with the Bcrp mutated mouse. The Mdr1a/b model was created by sequential targeting of the two Abcb1a and Abcb1b genes in E14 ES cells. Resultant chimeras were backcrossed to FVB/N for seven generations. The Bcrp model was created by targeting the Abcg2 gene in E14 embryonic stem cells derived from 129P2/OlaHsd mice and injecting the targeted cells into FVB blastocysts.
Formulation:
Recommended controls:
Bacterial resistance:
Selectable markers:
Additional notes: The Mdr1a/b-Bcrp mouse was developed in the laboratory of Alfred Schinkel of the Netherlands Cancer Institute. Useful in studies of drug transport, oral bioavailability and multi-drug resistance

Target details

Target: This model encodes a triple targeted mutation with disruption of the multi-drug resistance genes Abcb1a, Abcb1b and Abcg2.

Target alternate names:

Target background:

Molecular weight:

Ic50:

Applications

Application: Useful in studies of drug transport, oral bioavailability and multi-drug resistance
Application notes:

Handling

Format:
Concentration:
Passage number:
Growth medium:
Temperature:
Atmosphere:
Volume:
Storage medium:
Storage buffer:
Storage conditions:
Shipping conditions: Embryo/Spermatoza- Dry Ice

Related tools

Related tools: Mrp2 Knock Out Mouse

References

References: van Waterschoot et al. 2010. Br J Pharmacol. 160(5):1224-33. PMID: 20590614. ; Effects of cytochrome P450 3A (CYP3A) and the drug transporters P-glycoprotein (MDR1/ABCB1) and MRP2 (ABCC2) on the pharmacokinetics of lopinavir. ; Vlaming et al. 2006. J Pharmacol Exp Ther. 318(1):319-27. PMID: 16611851. ; Carcinogen and anticancer drug transport by Mrp2 in vivo: studies using Mrp2 (Abcc2) knockout mice.