

TECHNOLOGY OFFER

Transgenic cell tracking model

Description:

This in vivo cell tracking technology is based on a system of a transgenic donor mouse line and a transgenic marker tolerant recipient mouse line. Human placental alkaline phosphatase (ALPP) and a heat-labile ALPP-mutant are used as markers in the animals. Both proteins are under control of an inducible promoter and/or a constitutive active and/or cell- or tissue-specific promoter. The ALPP mouse system represents the next generation of cell tracking models and provides the possibility to study in vivo the fate of labeled cells in the complete absence of immune-mediated rejection. Therefore marker tolerant mouse models allow unbiased long-term studies using labeled cells in normal immuno-competent animals and bioluminescent protein markers permit non-invasive in vivo imaging.

Background:

Animal models that allow tracing the fate of native or manipulated donor cells in the host are essential for questions like cell lineage experiments or regenerative medicine approaches. Tracing of the cells requires labelling. Most of the currently used cell markers are foreign, immunogenic proteins which elicit immune-mediated rejection of transplanted cells which causes significant problems in transplantation studies and in gene therapy protocols.

Potential Application:

Several mouse lines tolerant to ALPP were successfully established. These models may find application for interesting research directions such as regenerative medicine, CNS research, cancer research and/or, long-term preclinical safety studies using labelled cells.

Benefits:

- ALPP and a heat-labile ALPP-mutant as markers
- Absence of immune-mediated rejection in mice
- Non-invasive in vivo imaging
- Multi-detection cell tracking system



IP Status:

WO 2006/113962A1

Type of Co-Operation:

- License Agreement
- Ownership

Keywords:

- Human placental alkaline phosphatase
- ALPP
- Marker tolerant model
- Transgenic mouse

Contact:

Jacobus C.A. van Meel, PhD
jacobus.vanmeel@vetwidi.at
phone: +43 (1) 25077-1044

Mag. Christine Ruckenbauer
christine.ruckenbauer@
vetwidi.at
phone: +43 (1) 25077-1047

Ref.no.: EM034