



Transgenic Rats Expressing Human Placental Alkaline Phosphatase

WARF: P01322US

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing transgenic rats that ubiquitously express the marker gene *hPAP*.

Overview

The ability to unambiguously mark a cell's genotype is essential for studies in which genetically distinct cell populations must be distinguished from one another *in vivo*.

The Invention

UW-Madison researchers have now developed transgenic rats that ubiquitously express the marker gene *human placental alkaline phosphatase (hPAP)*. They used an 800-base pair fragment of a promoter region from ROSA26 cells in a genetic construct with *hPAP*.

Several lines of transgenic rats were created using the microinjection technique. The ROSA26 promoter directs ubiquitous expression of *hPAP* during embryonic and postnatal development in the rats.

Applications

- Marking donor cells in transplantation studies
- Embryonic chimera studies and lineage analyses

Key Benefits

- Marker gene is expressed ubiquitously.
- Marker is easily detectable with no background staining.
- Permits monitoring of engraftment of transplanted cells
- Because *hPAP* is heat stable, fixed- and paraffin-embedded tissue sections can be incubated directly with substrate.

Stage of Development

These animals have been successfully used to provide marker cells for transplantation studies.

Additional Information

For More Information About the Inventors

- [Eric Sandgren](#)

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