Transgenic Mice Containing an Antioxidant Response Element-Driven Reporter Gene

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Technology description

Antioxidant response elements (AREs) are small segments of DNA that turn on a wide variety of genes in response to oxidative stress. They are of particular interest in the study of cancer treatment and prevention because many chemotherapeutic agents cause oxidative stress in patients. UW-Madison researchers have developed a line of transgenic mice that contain a 51 base pair region of human ARE paired with thehuman placental alkaline phosphatase(hPAP) gene as a reporter. The researchers chosehPAPas a reporter gene because it is insensitive to heat and its activity is relatively easy to quantify, both of which should facilitate high throughput screening.
The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in a line of transgenic mice that contain an antioxidant response element-driven reporter gene.

Application area

Studying cell-specific activation of ARE
Screening of new drugsin vivofor activation of protective genes

Advantages

Cells could be isolated from these mice for use in high throughput screening.

Institution

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