Recombinant Cell Bioassay for Rapid Detection of Estrogenic and Antiestrogenic Chemicals

Tech ID: 21060 / UC Case 2011-003-0

ABSTRACT

Researchers at the University of California, Davis developed a novel, cell-based bioassay that detects compounds that impact the estrogen receptor signaling pathway.

FULL DESCRIPTION

The ability of a wide variety of compounds to disrupt normal endocrine homeostasis, and potentially, the physiological and reproductive capacity of an organism, is of great concern.

Researchers at the University of California, Davis developed a stably transfected recombinant human cell line responds to estrogenic chemicals. The cell-based bioassay detects compounds that impact the estrogen receptor signaling pathway and responds to estrogenic chemicals with the induction of luciferase gene expression in a time-, dose-, and chemical specific manner. The cell line responds to antiestrogenic chemicals with the inhibition of estrogen-dependent gene expression.

APPLICATIONS

▶ Rapid and inexpensive screening
▶ Identification and characterization of estrogenic and antiestrogenic endocrine disrupting chemicals and extracts containing such chemicals
▶ Estimate of the relative estrogenic/antiestrogenic potency of a target/test chemical or an extract containing these chemicals

FEATURES/BENEFITS

▶ Stably transfected recombinant human cell line
▶ Responds to estrogenic chemicals with the induction of luciferase gene expression in a time-, dose-, and chemical specific manner
▶ Responds to antiestrogenic chemicals with the inhibition of estrogen-dependent gene expression

RELATED MATERIALS

▶ University of California Davis (UCD). "Test for hormone-disrupting chemicals gets global seal of approval." ScienceDaily. 01/29/2013

OTHER INFORMATION

Non-exclusive licenses are available for UC’s property rights in this cell bioassay and patent rights in the luciferase reporter gene as it is utilized within the cell bioassay.

This cell bioassay system also contains components owned by the Promega Corporation. Licensees can acquire Promega permissions relevant to practicing this invention by executing a contract services agreement directly with Promega. UC can provide interested parties with a draft license agreement as well as a sample of the Promega contract services agreement.

CATEGORIZED AS

▶ Research Tools
▶ Cell Lines
▶ Screening Assays
▶ Security and Defense
▶ Food and Environment
▶ Screening/Imaging

RELATED CASES

2011-003-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

▶ Amplified Recombinant Cell Bioassay for the Detection of Dioxin and Related Ah Receptor Ligands
▶ Recombinant Cell Bioassay For Rapid Detection Of Androgenic And Antiandrogenic Chemicals