



Strain and Vector for Use with the Three Hybrid System

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing an improved three hybrid system.

Overview

Three hybrid screens are used to detect RNA-protein interactions. A problem with three hybrid screens has been high background due to some cDNAs binding and activating transcription in the absence of a RNA-protein interaction.

The Invention

UW-Madison researchers have corrected this problem by the addition of the screening marker *ade2* onto the plasmids containing the hybrid RNA and the *ura3* marker. They created a yeast cell line containing the sequence Lex A-CP-CP (where CP is coat protein) in its genome, and plasmids that encode a hybrid RNA molecule and *ura3* as a selectable marker.

The researchers have utilized this three hybrid system to detect RNA-protein interactions as measured by reporter function activity, such as transcription of a *his3* reporter gene. The most common application is one in which the RNA is known and interacting proteins unknown. In this case, a library of cDNAs is screened to detect a protein of interest.

Applications

- Three hybrid screens

Key Benefits

- This new strain and plasmid construct provide a means for overcoming the high background/DNA binding problems associated with the three hybrid system.
- Superfluous portions of the RNA-binding CPs that are not involved in RNA binding have been removed, further contributing to the decrease in background.

Additional Information

For More Information About the Inventors

- [Marvin Wickens](#)

Tech Fields

- [Research Tools : Protein interactions & function](#)

For current licensing status, please contact Jennifer Gottwald at jennifer@warf.org or 608-960-9854