ABSTRACT OF THE INVENTION

A FUNGAL BIOASSAY FOR COMPOUNDS THAT INTERACT WITH FUNCTIONALLY EXPRESSED HETEROLOGOUS G PROTEIN COUPLED RECEPTORS

The present invention is directed to expression vectors and yeast cells transformed therewith containing a first heterologous nucleotide sequence which codes for a G protein-coupled receptor, for example, the somatostatin receptor, and a second nucleotide sequence which codes for all or a portion of a G protein $\alpha\beta\gamma$ complex. Said heterologous protein is physically expressed in a host cell membrane in proper orientation for both stereoselective binding of ligands, as well as functional interaction with G proteins on the cytoplasmic side of the cell membrane. In some embodiments, a nucleotide sequence encoding a heterologous or chimeric $G\alpha$ protein is expressed in conjunction with nucleotide sequences from the yeast G protein $\beta\gamma$ subunits.

A second aspect of the present invention provides expression vectors and yeast cells transformed therewith encoding chimeric yeast/heterologous G protein coupled receptors.

A third aspect of the present invention is directed to methods of assaying compounds using such expression constructs and yeast cell expression systems to determine the effects of ligand binding to the heterologous receptors expressed in the systems.

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