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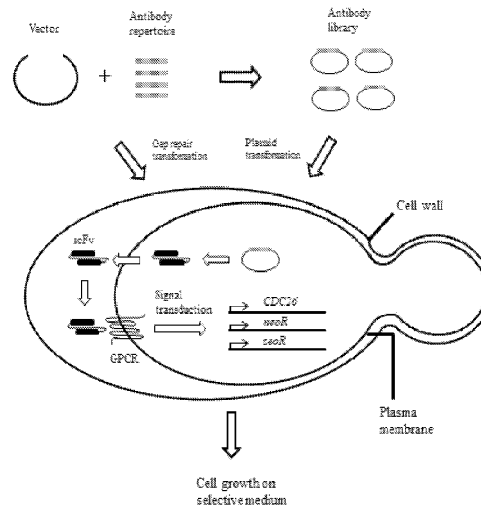


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- (71) Applicant: **KANGTI PTE LTD** [SG/SG]; 9, Temasek
Boulevard, #41-01, Suntec Tower 2, Singapore 038989
(SG).
- (72) Inventor: **CAI, Mingjie**; 61, Lorong Sarhad, #01-07, Sin-
gapore 119174 (SG).
- (74) Agent: **SPRUSON & FERGUSON (ASIA) PTE LTD**;
P.O. Box 1531, Robinson Road Post Office, Singapore
903031 (SG).
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(54) Title: A YEAST PHENOTYPIC SCREENING METHOD FOR ISOLATION OF FUNCTIONAL ANTIBODIES AGAINST G-
PROTEIN COUPLED RECEPTORS

FIG. 1



(57) Abstract: The present invention provides a method for identifying a functional antibody or antigen-binding protein or a fragment thereof that is capable of binding to, and stimulating the activity of, a target transmembrane protein comprising the steps of providing yeast cells transformed with yeast expression vectors encoding a library of antibodies or antigen-binding proteins or fragments thereof, wherein said yeast cells express said target transmembrane protein, expressing said library of antibodies or antigen-binding proteins or fragments thereof in the yeast cells, wherein said expressed antibodies or antigen-binding proteins or fragments thereof are secreted into the periplasmic space of said yeast cells, incubating the yeast cells in or on a selective medium or under a restrictive temperature, or a combination thereof, and detecting a predetermined phenotype in the yeast cells, wherein detection or manifestation of the predetermined phenotype is indicative of binding of the functional antibody or antigen-binding protein or a fragment thereof to said target

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transmembrane protein and stimulation of said target transmembrane protein by the functional antibody or antigen-binding protein or a fragment thereof. Antibodies or antibody fragments that are agonists of G-protein coupled receptors identified by the method of the invention are also provided.