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(54) Title: FUNCTION HOMOLOGY SCREENING

(57) Abstract: A method of screening biologically active agent based on the analysis of complex biological responses in culture. Methods for selecting cells and culture conditions for such screens are provided, as well as the identification of an optimized set of discrete parameters to be measured, and the use of biomap analysis for rapid identification and characterization of drug candidates, genetic sequences acting pathways, and the like. A feature of the invention is simultaneous screening of a large number of cellular pathways, and the rapid identification of compounds that cause cellular responses.