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(54) Title: SYSTEMS, METHODS AND COMPOSITIONS FOR OPTICAL STIMULATION OF TARGET CELLS

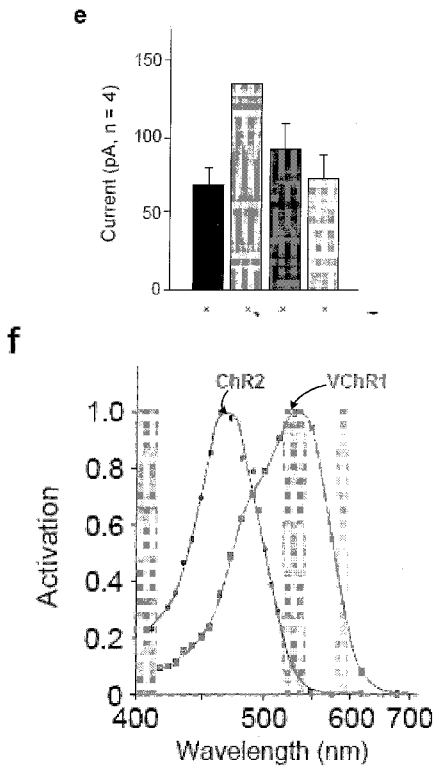


FIG. 1

(57) Abstract: Methods, systems and devices are implemented in connection with light- responsive ion channel molecules. One such method is implemented using a light- activated ion channel molecule that responds to a light stimulus. The method includes engineering the light-activated ion channel molecule in a cell; and activating the ion channel molecule, in response to light stimulus that is provided to the ion channel molecule and that has properties that do not activate a ChR2 ion channel, to allow ions to pass through the light-activated ion channel molecule.

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