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(54) **Title**: FLUORESCENCE BASED ASSAY TO DETECT SODIUM/CALCIUM EXCHANGER "FORWARD MODE" MODULATING COMPOUNDS

(57) **Abstract**: Transporters are an emerging target family with enormous potential, offering scientific and economic opportunities. The sodium/calcium exchanger is an important mechanism for removing Ca^{2+} from diverse cells. In heart, it extrudes Ca^{2+} that has entered through Ca^{2+} Channels to initiate contraction, while Na^{+} enters the heart cell. It is of considerable interest to identify Compounds that modulate the activity of sodium/calcium exchangers. The present invention is directed to a fluorescence-based assay for detecting NCX and NCKX "forward mode" modulating Compounds. It further refers to a kit of parts comprising cells expriming a sodium/calcium exchanger and the use of the kit of parts to test a Compound for activity as an agonist or antagonist of a sodium/calcium exchanger.