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(54) **Title**: FLUORESCENCE BASED ASSAY TO DETECT SODIUM/CALCIUM EXCHANGER (NCX) "REVERSE 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, not only the calcium export activity (forward mode), but also the calcium import activity (reverse mode) of sodium/calcium exchangers. The present invention is directed to a fluorescence-based assay for detecting NCX "reverse mode" modulating compounds. It further refers to a kit of parts comprising cells expriming NCX and the use of the kit of parts to test a compound for activity as an agonist or antagonist of NCX.