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(54) Title: PHENOTYPIC EFFECTS OF UBIQUINONE DEFICIENCIES AND METHODS OF SCREENING THEREOF

(57) Abstract: The present invention relates to a method of screening for a compound allowing survival of clk1 homozygous mutant embryos; a method of screening for a compound suitable for rescue of mutant phenotype of mclk1 homozygous cell line; a method of screening for a compound suitable for partial or complete functional replacement of endogenous ubiquinone; a method for screening a compound capable of inhibiting activity of clk-1 and/or other processes required to make ubiquinone from demethoxyubiquinone; a non-ubiquinone-producer mouse; a DNA construct, which comprises an alteration of mclk1; a non-ubiquinone-producer ES cell line; a coq-3 mutant subject non-ubiquinone producer; a method of screening for a compound suitable for complete or partial functional ubiquinone or demethoxyubiquinone replacement; a method for reducing and/or increasing ubiquinone level in a multicellular subject; a method of screening for a genetic suppressor of clk-1; and a method of screening for a genetic suppressor of coq-3.