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(54) Title: DEVELOPMENT OF CELL MEDIUM AND FEED ON MAMMALIAN CELLS

(57) Abstract: The present invention is related to a DNA array-based method of assessing the effect of at least one test component of cell medium on at least one phenotype of interest of a test mammalian cell line cultured in cell media comprising the test component, the method comprising the steps of: (a) determining a test methylation profile of one or more pre-selected methylation sites within the DNA of the test cell line; (b) comparing the test methylation profile obtained from (a) with at least one control methylation profile from the same strain of mammalian cell line cultured in cell media without the test component; and wherein a significant similarity in the test methylation profile of (a) compared to the control methylation profile, is indicative of the test cell having the phenotype of interest and the test component not having an effect on the phenotype of interest; and wherein a significant difference in the test methylation profile of (a) compared to the control methylation profile, is indicative of the test cell having the phenotype of interest and the test component having an effect on the phenotype of interest and wherein the method comprises a further step of: (c) comparing the test methylation profile obtained from (a) with (i) at least one first reference methylation profile obtained from a first mammalian reference cell line that displays at least one phenotype of interest; and/or (ii) at least one second reference methylation profile obtained from a second mammalian reference cell line that does not display the phenotype of interest; and wherein the reference cell lines are not in contact with the test component; and wherein a significant similarity in the test methylation profile of (a) compared to the first or second reference methylation profile, is indicative of the test cell having the phenotype of interest or not having the phenotype of interest respectively; and wherein a difference in the test methylation profile of (a) compared to the first or second reference methylation profile, is indicative of the test cell not having the phenotype of interest or having the phenotype of interest.

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