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(54) Title: METHODS OF MEAT PRODUCTION BY IN VITRO CELL CULTIVATION

(57) Abstract: A method for meat production by in vitro cell culture includes isolating tissue from an animal or plant source and making a cell suspension of cells, and growing the cells into a solid or semi-solid structure that mimics an animal organ by growing the cells on a food grade scaffold in a culture medium. Expression of one or more proteins in the growing cells may be increased by altering a level of one or more micro RNAs that regulate expression of the protein. Additionally, the growing cells may be co-cultured with bioengineered cells that secrete growth factors and cytokines that support the growth of the cells in situ. The co-culturing technique reduces or eliminates the need for animal-derived fetal bovine serum in the culture medium.