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(54) Title: ENGINEERED MESENCHYMAL STEM CELLS AND METHOD OF USING SAME TO TREAT TUMORS

(57) Abstract: This invention provides a method for treating a subject afflicted with a tumor using genetically modified mesenchymal stem cells, wherein each genetically modified mesenchymal stem cell contains an exogenous nucleic acid comprising (i) a cytotoxic protein-encoding region operably linked to (ii) a promoter or promoter/enhancer combination, whereby the cytotoxic protein is selectively expressed when the genetically modified mesenchymal stem cells come into proximity with the tumor's stromal tissue. This invention further provides genetically modified mesenchymal stem cells for use in this method.