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(54) Title: MUSCLE-SPECIFIC NUCLEIC ACID REGULATORY ELEMENTS AND METHODS AND USE THEREOF

(57) Abstract: The present invention relates to nucleic acid regulatory elements that are able to enhance muscle-specific expression of genes, in particular expression in muscle cells and/or tissues such as in diaphragm, smooth muscle, heart and/or skeletal muscle, comprising at least two diaphragm-specific regulatory elements and a heart- and skeletal muscle-specific regulatory element. The present invention further relates to expression cassettes and vectors containing these nucleic acid regulatory elements, as well as uses thereof. The present invention is particularly useful for applications using gene therapy of muscle-related disorders, more particularly diaphragm, heart and/or skeletal muscle-directed gene therapy, and for vaccination purposes.



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