selected from group consisting of domain 1 (Dl ; SEQ ID NO: 3 or 7), domain 2 (D2; SEQ ID NO: 4 or 8), domain 3 (D3; SEQ ID NO: 5 or 9) and domain 4 (D4; SEQ ID NO: 6 or 10).

[0043] In a further aspect, the present invention refers to the use of the nucleic acid delivery construct as disclosed herein in the manufacture of a medicament for enhancing mitochondrial gene function, or suppressing defective mitochondrial gene function, or both (provided that in this case the mitochondrial genes are different from each other), wherein the mitochondrial gene functions are different from each other.

[0044] In another aspect, the present invention refers to the use of the nucleic acid delivery construct as disclosed herein in the manufacture of a medicament for treating a mitochondrial disorder.

BRIEF DESCRIPTION OF THE DRAWINGS

[0045] The invention will be better understood with reference to the detailed description when considered in conjunction with the non-limiting examples and the accompanying drawings, in which:

[0046] **Fig. 1** shows the structural and functional analyses that identify a single structural subdomain that governs the complete mitochondrial localization activity of the full-length β2.7 RNA. **a)** HepG2 cells were transfected with *in vitro* transcribed β2.7 RNA. Cytoplasmic and mitochondrial fractions were purified and the relative distribution of the β2.7 RNA in each fraction was determined using real-time RT-PCR. Data represent means ± SD of 3 independent experiments (*p<0.05, Student's t-test). **b)** Thermodynamic profiling of the β2.7 RNA sequence of the CMV Towne strain using the algorithm foldsplit (HUSAR) and a window size of 200 nt and shift increment of 1 nt. The Gibbs free energy (ΔG) values of secondary structure formation for each window was plotted against the position of the sequence window. ΔG minima indicate four thermodynamically conserved and potentially functionally relevant structural subdomains Dl to D4. **c)** Well-defined secondary structure subdomains Dl to D4 could be assigned to each of the energetic minima within the minimum free energy structure (mfe) of T7 polymerase transcript of the Towne β2.7 RNA as predicted by mfold. **d)** shows a schematic representation of the β2.7 RNA domain structure along with the single domain deletion constructs (SDDC) and the single domain constructs (SDCs). **e)** shows the results of HepG2 cells that were transfected with *in vitro* transcribed, full-length β2.7 RNA or the SDDCs. Mitochondrial uptake was monitored using rtRT-PCR. Data represent mean values ± SD of 3 independent experiments (***p<0.001 , ****p<0.0001 one-way ANOVA, Dunnett's multiple comparison test). **f)** shows the results of HepG2 cells that were transfected with *in vitro* transcribed full-length β2.7 RNA or the SDCs and mitochondrial uptake was measured using rtRT-PCR and

16. The nucleic acid delivery construct of any of the preceding claims, wherein the nucleic acid delivery construct further comprises a payload.

17. The nucleic acid delivery construct of any of the preceding claims, wherein the nucleic acid delivery construct comprises a sequence according to any one of SEQ ID NO: 20 to SEQ ID NO:82.

18. A vector, a recombinant cell, or a recombinant organism comprising the nucleic acid sequence of any of claims 1 to 17.

19. The recombinant cell or the recombinant organism of claim 19, wherein the nucleic acid sequence is expressed constitutively or not constitutively.

20. A nucleic acid sequence comprising at least one or more sense or antisense RNA sequences of the human cytomegalovirus β2.7 RNA selected from group consisting of domain 1 (Dl; SEQ ID NO: 3 or 7), domain 2 (D2; SEQ ID NO: 4 or 8), domain 3 (D3; SEQ ID NO: 5 or 9) and domain 4 (D4; SEQ ID NO: 6 or 10).

21. Use of nucleic acid delivery construct according to any of claims 1 to 17 in the manufacture of a medicament for enhancing mitochondrial gene function, or suppressing defective mitochondrial gene function, or both (provided that in this case the mitochondrial genes are different from each other), wherein the mitochondrial gene functions are different from each other.

22. Use of the nucleic acid delivery construct according to any of claims 1 to 17 in the manufacture of a medicament for treating a mitochondrial disorder.

23. The use of claim 22, wherein the nucleic acid delivery construct is to be used to deliver antisense RNA.

24. The use according to claims 22 to 23, wherein the mitochondrial disorder is selected from the group consisting of maternally inherited diabetes mellitus, Leber's hereditary optic neuropathy (LHON), neuropathy, ataxia, retinitis pigmentosa, myoclonic epilepsy

with ragged red fibres (MERRF), mitochondrial myopathy encephalopathy lactic acidosis and stroke like symptoms (MELAS), Parkinson's disease, chronic obstructive pulmonary disorder (COPD), Kearns-Sayre Syndrome (KSS), Pearson Syndrome and progressive opthalmoplegia (PEO).

25. The use according to claims 22 to 23, wherein the mitochondrial disorder is to be treated by targeting at least one affected (mitochondrial) gene selected from the group consisting of MT-TL1 (tRNA leucine), MT-ND1, MT-ND4, MT-ND6, MT-ATP6, MT-TK (tRNA lysine), MT-ND1, MT-ND5, MT-TH (histidine), MT-TL1 (leucine), MT-TV (valine), and combinations thereof.