Claims

1. A composition comprising at least one mRNA, wherein the at least one mRNA encodes the following antigens:

- STEAP (Six Transmembrane Epithelial Antigen of the Prostate);
- PSA (Prostate-Specific Antigen),
- PSMA (Prostate-Specific Membrane Antigen),
- PSCA (Prostate Stem Cell Antigen);
- PAP (Prostatic Acid Phosphatase), and
- MUC1 (Mucin 1),

or fragments thereof and wherein the at least one mRNA is mono-, bi- or multicistronic, wherein the at least one mRNA comprises a 3' UTR, which comprises (in 5' to 3' direction) the following elements:

a) a poly(A) tail, preferably consisting of 10 to 200, 10 to 100, 40 to 80 or 50 to 70 adenosine nucleotides,

b) a poly(C) tail, preferably consisting of 10 to 200, 10 to 100, 20 to 70, 20 to 60 or 10 to 40 cytosine nucleotides, and

c) a histone stem-loop,

and wherein the sequence forming the stem region in the histone stem-loop has a length of 5 to 10 bases, preferably 5 to 8 bases.