Claims

1. A second antigenic composition that comprises
at least one mRNA construct that encodes at least one immunogenic peptide or polypeptide,
for use as a vaccine, wherein at least once an effective amount of the second antigenic composition is administered to a subject in need thereof subsequently to administration to the subject at least once of an effective amount of a first antigenic composition that comprises at least one immunogenic peptide or polypeptide and/or that comprises at least one nucleic acid construct that encodes at least one immunogenic peptide or polypeptide,
wherein:
the nucleic acid construct, if comprised in the first antigenic composition, is not an mRNA construct; and
at least one epitope of the immunogenic peptide or polypeptide comprised in, or encoded by the nucleic acid construct comprised in, the first antigenic composition is identical to or at least 70%, 75%, 80%, 85%, 90%, 95% or at least 98% identical to at least one epitope of the immunogenic peptide or polypeptide encoded by the mRNA construct of the second antigenic composition; or.

the second antigenic composition wherein the vaccine is for use as a medicament for inducing an immune response; or

a first antigenic composition that comprises
at least one immunogenic peptide or polypeptide and/or that comprises
at least one nucleic acid construct that encodes at least one immunogenic peptide or polypeptide,
and
a second antigenic composition that comprises
at least one mRNA construct that encodes at least one immunogenic peptide or polypeptide,
wherein
the nucleic acid construct, if comprised in the first antigenic composition, is not an mRNA construct; and
at least one epitope of the immunogenic peptide or polypeptide comprised in, or encoded by the nucleic acid construct comprised in, the first antigenic composition is

identical to or at least 70%, 75%, 80%, 85%, 90%, 95%, 98% or at least 99% identical to at least one epitope of the immunogenic peptide or polypeptide encoded by the mRNA construct of the second antigenic composition,

for use as a vaccine, wherein an effective amount of the second antigenic composition is administered at least once to a subject in need thereof

subsequently to administration to the subject at least once of an effective amount of a first antigenic composition; and

wherein the vaccine is used as a medicament for inducing an immune response; or

a first antigenic composition that comprises

at least one immunogenic peptide or polypeptide and/or that comprises

at least one nucleic acid construct that encodes at least one immunogenic peptide or polypeptide,

for use as a vaccine, wherein at least once an effective amount of the first antigenic composition is administered to a subject in need thereof prior to administration to the subject at least once an effective amount of a second antigenic composition that comprises at least one mRNA construct that encodes at least one immunogenic peptide or polypeptide,

wherein:

the nucleic acid construct, if comprised in the first antigenic composition, is not an mRNA construct; and

at least one epitope of the immunogenic peptide or polypeptide comprised in, or encoded by the nucleic acid construct comprised in, the first antigenic composition is identical to or at least 70%, 75%, 80%, 85%, 90%, 95% or at least 98% identical to at least one epitope of the immunogenic peptide or polypeptide encoded by the mRNA construct of the second antigenic composition; or

the immediately aforementioned first antigenic composition wherein the vaccine is for use as a medicament for inducing an immune response; or

a first antigenic composition that comprises

at least one immunogenic peptide or polypeptide and/or that comprises

at least one nucleic acid construct that encodes at least one immunogenic peptide or polypeptide,

and

a second antigenic composition that comprises

at least one mRNA construct that encodes at least one immunogenic peptide or polypeptide,

wherein

the nucleic acid construct, if comprised in the first antigenic composition, is not an mRNA construct; and

at least one epitope of the immunogenic peptide or polypeptide comprised in, or encoded by the nucleic acid construct comprised in, the first antigenic composition is identical to or at least 70%, 75%, 80%, 85%, 90%, 95%, 98% or at least 99% identical to at least one epitope of the immunogenic peptide or polypeptide encoded by the mRNA construct of the second antigenic composition,

for use as a vaccine, wherein an effective amount of the second antigenic composition is administered at least once to a subject in need thereof

subsequently to administration to the subject at least once of an effective amount of a first antigenic composition; or

the immediately aforementioned first antigenic composition wherein the vaccine is for use as a medicament for inducing an immune response;

wherein the amino acid sequence of at least the epitope is from a tumour or cancer cell, or a homolog, a fragment or a variant thereof, preferably wherein the immunogenic peptide or polypeptide comprised in the first antigenic composition, or encoded by the nucleic acid construct comprised in the first antigenic composition, and the immunogenic peptide or polypeptide encoded by the mRNA construct comprised in the second antigenic composition is from a tumour or cancer cell, or a homolog, a fragment or a variant thereof; and

wherein the tumour or cancer cell is a cell from a tumour or cancer selected from the list consisting of: prostate cancer, lung cancer, breast cancer, brain cancer, colon cancer, stomach cancer, liver cancer, pancreas cancer, ovary cancer, lymphoma, leukemia, and myeloma.