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(54) Title: BOOSTING SARS-COV-2 IMMUNITY WITH A LENTIVIRAL-BASED NASAL VACCINE

(57) Abstract: The invention relates to the field of immunity against coronaviruses. In this respect, the invention provides a lentivi-
ral-based immunogenic agent that is suitable for use in boost or target immunization treatment in a subject, in particular a human subject,
who had previously developed an immunity against Severe Acute Respiratory Syndrome coronavirus 2 (SARS- CoV-2) based on: (i)
vaccination with the first generation of vaccines against SARS-CoV-2 infection or disease such as a protein, an mRNA, an adenovirus,
an inactivated virus or a protein subunit vaccine composition against SARS-CoV-2 infection or disease, in particular a protein- or
an mRNA-based vaccine, or (ii) SARS-CoV-2-induced or correlated disease. The invention accordingly concerns a lentiviral-based
immunogenic agent that in particular may help overcome the deficiencies of available vaccines against SARS-CoV-2, especially may
be efficient in overcoming the waning immune response or insufficient cellular memory response observed after immunization with
available first generation of vaccines such as a protein, an mRNA, an adenovirus, an inactivated virus or a protein subunit vaccine, in
particular protein or mRNA vaccine, by triggering a mucosal humoral and cellular immune response against coronaviruses, including
a long-lasting immune response.

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