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(54) Title: **BETACORONAVIRUS PROPHYLAXIS AND THERAPY**

Fig. 1

SEQ ID NO: 230

MFVFLVLLPLVSSQCVNLTRTQLPPAYTNSFTRGVVYPDKVFRSSVLHSTQDLFLPFFSNVTWFAHIVSGTNGTKRFD
NPVLPFNDGVYFASTEKSNIRGWIFGTTLDSTQSLNATNVVIVKCEFCNDPFLGVYHKNKSWMESEFRVYS
SANNCTFEYVSQPFMDLEGKQGNFKNREFVFNIDGYFKIYKHTPINLVRDLPGGSALEPLVDLPIGINITRFQTLAL
HRSYLTGDDSSSGWTAGAAAYVGYLQPRFTLLKYNENGTITDAVDCALDPLSETKCTLSFTVEKGIYQTSNFRVQPT
SIVRFPNITNLCPPGEVFNATRFASVYAWNRKRISNCVADYSVLNSASFSTFKCYGVSPKTLNDLCFTNVYADSFVIRGD
EVRQIAPGQTGKIADYNYKLPDDFTGCVIAWNSNLDKSVGGNYLYRLFRKSNLKPFERDISTEIQAGSTPCNGVEG
FNCYFPLQSYGFQPTNGVGYQPYRVVLSFELLHAPATVCGPKKSTNLVKNKCVNFNGLTGTGVLTESNKKFLPFQ
FGRDIADTTDAVRDPQTLEILDITPCSFSGVSVITPGTNTSNQVAVLYQDVNCTEVPVAIHADQLTPTWRVYSTGNSVFT
RAGCLIGAEHVNNSECDIPGAGICASYQTQTSNPRRARSVASQSIAYTMSLGAENSVAYSNNIAIPTNFTISVTTEILPV
SMTKTSVDCTMYIGDSTECNLLQYGSFCTQLNRALTGIAVEQDKNTQEVFAQVKQIYKTPPIKDFGGFNFSQILPDPS
KPSKRSFIEDLLFNKVTADAGFIKQYGDCLGDIAARDLICAKFNGLTVLPPLTDEMIAQYTSALLAGTITSGWTFGAGAA
LQIPFAMQMYRFNGIGVTQNVLYENQKLIANQFNSAIGKIQDSLSTASALGKLQDVVNQNAQALNTLVKQLSSNFGAIS
SVLNDILSRDLKVEAEVQIDRLITGRLQSLQTYTQQLIRAAEIRASANLAATKMSECVLGQSKRVDFCGKGYHLMGFPQS
APHGVVFLHVTYVPAQEKNFTTAPAICHGKAHFPREGVFSNGTHWFTVQRNFYEPQIITDNTFVSGNCDVIGIVNNT
VYDPLQPELDSFKEELDKYFNHTSPDVLGDISGINASVNIQKEIDRLNEVAKNLNESLIDLQELGKYEYIKWPWYIWL
GFIAGLIAVMVTIMLCCMTSCCCLGKCCSCGCKFDEDDSEPVLVKGVKLHYT

(57) Abstract: Disclosed is a vaccine comprising an immunologically effective amount of a polynucleotide comprising a nucleotide sequence encoding a targeting unit, a dimerization unit and an antigenic unit, wherein the antigenic unit comprises at least one beta-coronavirus epitope. The vaccine is ideal for pandemic and epidemics as it can induce rapid, strong immune response with lower/fewer doses because the antigen is targeted to antigen presenting cells and the antigen is produced in the body.

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