Patent Report

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New dengue virus Type-1 strain; recombinant DEN1 protein expression; potential in recombinant vaccine construction, virus detection and dengue fever diagnosis and therapy
Univ Nat Singapore
World 9322 440, 11 November 1993

Dengue virus type-1 strain DEN1-S275/90 (ECACC V92042111) is claimed Also claimed are i DEN1-S275/90 in inactivated form, ii a DNA molecule (specified) encoding DEN1-S275/90, iii a fragment of a DNA molecule as in (ii), the fragment encoding the C,C', PreM, M, E, NS1, NS2A, NS2B, NS3, NS4A, NS4B or NS5 gene of DEN1-S275/90, iv a DNA molecule or fragment as in (ii) or (iii) in an expression vector, v a cell harbouring the expression vector, vi a polypeptide in isolated form which is the C,C', PreM, M, E, NS1, NS2A, NS2B, NS3, NS4A, NS4B or NS5 polypeptide of DEN1-S275/90, vii an antibody against polypeptide as in (vi) capable of binding a DEN1 viral portein, optionally carrying a label, and viii a kit for the detection of DEN1 virus DEN1 virus was isolated from the serum of a dengue haemorrhagic fever patient RNA was isolated from the virus and used to prepare cDNA encoding DEN1 polypeptides The Dengue virus type-1 can be used for detection, diagnosis, vaccines or treatment of DEN1 infections
039-94

Non-infective structural particle preparation containing flavivirus surface antigen protein; Japanese-encephalitis virus cDNA gene cloning in dengue virus-2-preinfected cell with a vaccinia virus vector and use of a non-infective structural particle as recombinant vaccine
Nippon Zeon, Tokyoto Shinkei Chem
Jpn 05276 941, 26 October 1993

In a new method, a flavivirus-infected cell is infected with a recombinant vaccinia virus with integrated cDNA, and non-infective structural particles containing flavivirus E protein are separated The cDNA encodes substantially all of the flavivirus-derived prM protein and surface antigen protein The initial flavivirus is preferably dengue virus-2, and the cDNA encodes a Japanese-encephalitis virus protein The sedimentation coefficient of the structural particle is below 100S The particle preparation may be used as a recombinant vaccine In an example, Vero cells were infected preliminarily with dengue virus-2 at an m o i of 2, 24 h prior to vaccinia virus infection To 4 million preinfected Vero cells, recombinant vaccinia viruses LAJ6-Se and LAJ6 were infected at an m o i of 2, followed by culture for 18 h The supernatant was filtered (0 2 μm pore size) and ultracentrifuged at 150,000*g* for 2 h The precipitate was washed with phosphate-buffered saline, suspended in 100 μl 10 mM carbonate buffer (pH 9 8), diluted and coated
040-94

Universal coronavirus vaccine; spike protein cloning and expression for use as a recombinant vaccine
SK + Beecham
World 9323 421, 25 November 1993

A new polypeptide contains a universal conserved domain (124 amino acids) from a coronavirus or an immunogenic fragment or derivative, and has less than a complete protein sequence of the spike (S) protein A recombinant vaccine containing the polypeptide, DNA encoding the polypeptide, and a method for protecting an animal against coronavirus infection using the vaccine, are also new An identical 124-amino-acid segment is found in the C-terminal portion of S proteins of transmissible-gastroenteritis virus, dog coronavirus or cat coronavirus strains The sequence is highly conserved among coronaviruses, and is capable of eliciting a protective immune response against e g cat infectious-peritonitis virus, cat enteric-coronavirus, dog coronavirus, pig transmissible-gastroenteritis virus, cattle coronavirus, human coronavirus or bird infectious-bronchitis virus
041-94

Isolated specific epitope region of thyroid peroxidase, for use as a recombinant vaccine in thyroid tumour or Hashimoto disease immunotherapy
Univ Michigan
World 9323 073, 25 November 1993

A new method for screening for the presence of an autoantibody to a thyroid peroxidase (EC1 11 1 7) in a sample, for diagnosis of autoimmune thyroiditis, involves contact of a biological fluid (e g serum) or tissue sample with a peptide epitope with a defined protein sequence The peptide may also be used as an immunostimulant or vaccine for therapy or prevention of Hashimoto disease or a thyroid tumour The peptide is obtained from recombinant, synthetic or native thyroid perioxidase DNA or RNA encoding the peptide is also new The peptides have distinct epitopic regions from amino acids 517–630 or 655–933 or thyroid peroxidase, and may be used in immunotherapy By screening for antibodies against the peptides, patients with Hashimoto disease may be distinguished from patients with other thyroid disorders, e g Grave disease Thyroid peroxidase is a membrane antigen, and is thus a good target for immunotherapy
042-94

Antitumour vaccine containing major histocompatibility complex protein for metastase control, application in cancer therapy
Yeda Res Develop
Eur 569 678, 18 November 1993

An antitumour vaccine comprises (a) at least one type of tumour cell having two genes encoding (and expressing in the cell) major histocompatibility complex (MHC) proteins (I) of different haplotypes inserted into them where at least one (I) has the same haplotype as the individual being vaccinated, and optionally (2) a pharmaceutically acceptable carrier and/or diluent Preferably the cells are human tumour cells, with or without metastatic potential The genes may encode MHC class I (HLA-A, -B or -C) protein or MHC class II (HLA-DR, -DQ or -DP) proteins The genes are inserted using a single or separate vectors for constitutive protein expression *in vivo* The vectors are plasmids or retrovirus vectors, and the genes either enter the cell chromosomes or are retained episomally The tumour cells are inactivated after incorporation of the genes The vaccines can be used to treat tumours (especially recurrent primary tumours) and to prevent their subsequent formation Tumour cells carrying two MHC genes induce a protective immune response which is a function of T-lymphocyte reactivity and shows good long-term memory
043-94

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