This section provides information on worldwide patents relevant to vaccine design and production. The Patent Report gives the following information: title of patent, patentee, patent number, publication date and summary of the patent. A number of patents in this report are reproduced from 'Biotechnology Abstracts' with permission of Derwent Publications Ltd., Rochdale House, 128 Theobalds Road, London WC1X 8RD.

Immunologically active parvovirus B19 peptide; comprises capsid protein VP1 or VP2 fragment; application to recombinant vaccine construction and disease diagnosis; protein sequence
Mikrogen-Mol. Biol.
4003-826; 14 August 1991

New immunologically-active peptides (I) comprise part of the amino acid sequence of capsid protein VP1 or VP2 of parvovirus B19, and are free of impurities that may interfere with the detection of B19-specific antibodies. Specified DNA sequences are used as DNA primers for the direct detection of the parvovirus B19 pathogen by DNA amplification, especially by the polymerase chain reaction. (I) include VP1 fragments designated PCE and PAN-1 to PAN-4 (specified protein sequences), VP2 fragments designated PANSE and PAPST (specified protein sequences) and the small fragments PAPEP-1 to PAPEP-8. The VP1 and VP2 fragments are expressed by plasmid pUC12PAN and plasmid pUC12VP2, respectively, which contain DNA sequences generated from virus DNA using the new DNA primers in pairs. (I) may be used in the development of a vaccine against parvovirus B19 infections, and as immunoassay reagents for detection of anti-B19 antibodies, e.g. for diagnosis of B19 infections. 009–92

Feline T-lymphotropic lentivirus (FTLV); separated from cell culture and useful as vaccine; hybridoma construction and monoclonal antibody preparation for use in immunoassay; DNA probe construction; and HIV virus model system
Univ. Calif.
USA 5037 753; 6 August 1991

Feline T-lymphotropic lentivirus (FTLV), isolated from cells grown in *in vitro* cell culture, is new. The virus is specifically characterized by a Western blot shown in the specification. Also new is a biologically pure culture of FTLV, strain Petaluma, ATCC VR 2186. The virus or its components, e.g. major envelope and core proteins, or antibodies raised against them can be used to detect and vaccinate against the new feline retrovirus. The virus will also serve as a useful model for HIV virus and other mammalian retroviruses. The FTLV may be produced by cultivation of e.g. peripheral blood lymphocytes or lymph nodes isolated from the blood of infected cats. Genes encoding the desired FTLV protein or fragment may be isolated or produced synthetically and expressed in bacterial, yeast or mammalian hosts. Monoclonal antibodies specific for the FTLV proteins can be obtained by conventional hybridoma technology, and are useful in immunoassays. DNA or RNA probes can also be prepared for use in detecting the presence of FTLV in biological samples. 010–92

New recombinant adenovirus used as vaccine; dog adenovirus-2 vector; dog parvovirus, cat panleukopenia virus, cat or dog coronavirus, dog distemper virus, cat leukemia virus, rabies virus or FIV virus recombinant vaccine construction
Univ. Glasgow
World 9111 525; 8 August 1991

A recombinant adenovirus vector for producing antibodies or cell-mediated immunity to infection in carnivores is new. The vector is a live non-pathogenic immunogenic viable dog adenovirus-2 vector, modified to contain an antigen gene in association with a promoter. The promoter sequence may be introduced into a viral genomic region from the *Sma*I site close to the end of the inverted terminal repeat to the early region four promoter, preferably at the *Sma*I site. The antigen gene may encode a dog parvovirus capsid protein, a cat panleukopenia virus capsid protein, a dog or cat coronavirus peplomere; a dog distemper virus hemagglutinin or capsid antigen; a cat leukemia virus envelope glycoprotein; a rabies virus glycoprotein; or an FIV virus glycoprotein. The recombinant virus may be associated with dog adenovirus E1a proteins, and may be replicated by transfection into a cell line expressing dog adenovirus E1a proteins. Using the vector, vaccines against a wide variety of diseases may be produced, and the gene is inserted without disturbing reproduction of the adenovirus vector. 011–92

New protein comprising at least one hepatitis A virus epitope; capsid protein expression in vaccinia virus vector for use as recombinant vaccine
Imperial Coll. Sci. Technol. Med.
World 9111 460; 8 August 1991

The following are claimed: (1) an isolated protein which is an antigen comprising at least a part of a hepatitis A virus (HAV) epitope, free from infectious material; (2) protein (1) comprising at least part of HAV capsid proteins (a) VP1, (b) VP3, (c) VP3 and at least part of VP1, (d) VP4, VP2, VP3 and at least part of VP1, or (d) at least two of VP1, VP2, VP3 and VP4; (3) proteins as in (2) conjugated to at least part of vaccinia virus thymidine-kinase (EC 2.7.1.21); (4) a DNA sequence encoding the proteins of (2) operably linked to a vaccinia virus promoter; (5) a genetically engineered vaccinia virus expressing proteins (2) under control of the vaccinia virus promoter; and (6) a recombinant vaccine used to immunize HAV and comprising a protein (2) or recombinant vaccinia virus vector expressing (2) in association with a pharmaceutically acceptable carrier. The proteins (2) expressed by vaccinia virus can evoke a protective immune response against HAV following a single injection. The recombinant proteins can be used in the production of polyclonal or monoclonal antibodies for use in passive immunization or as diagnostic agents. 012–92

Peptides from merozoite stage of malaria parasite and DNA sequence encoding them; *Plasmodium falciparum* merozoite thrombospondin-related anonymous protein expression in *Spodoptera frugiperda* insect cell transformed with nuclear-polyhedrosis virus vector; vaccine
Res. Exploit.
World 9111 516; 8 August 1991

Proteins comprising amino acids 182–276 and 221–276 of a specified sequence are claimed. The proteins represent the conserved and inner conserved sequences, respectively, of *Plasmodium falciparum* merozoite TRAP (thrombospondin-related anonymous protein). Also claimed are: (a) a DNA encoding the TRAP proteins; (b) a recombinant vector containing the DNA of (a), where the vector is a plasmid (phage M13mp8, plasmid pUC13, plasmid pAcYM1) or a virus (*Autographa californica* nuclear-polyhedrosis virus, AcNPV); (c) a host-vector system capable of expressing the DNA of (a) and containing the vector of (b), where the preferred host is *Spodoptera frugiperda*; (d) preparation of the TRAP proteins

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