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 8RP, UK.

Synthesis of dimeric Lex or difucosyl Y2 cancer antigen; useful as antitumor vaccine and to subside inflammatory processes of rheumatoid arthritis; preparation using α 1–3-fucosyltransferase
Biomembrane-Inst
Eur. 395 217; 31 October 1990

The production of difucosyl Y2 (dimeric Lex) comprises: i. preparing a lactonorhexaosylceramide (I) backbone or a lactonorhexaosylsaccharide (II) backbone linked to a carrier molecule; and ii. enzymatically fucosylating the backbone at the III3 and V3 positions through an α 1–3 linkage. Also claimed is the production of Ley antigen analogs by: a. as (i.) to (ii.); b. enzymatically fucosylating the backbone at the terminal β-Gal through an α 1–2 linkage; and c. enzymatically fucosylating the backbone at one or more positions through an α 1–3 linkage. Also claimed is the production of α 1–2 and/or α 1–3 fucosylated (I), (II) linked to a carrier or their higher analogs by enzymatic fucosylation. More specifically the backbone is prepared by organic chemical synthesis or isolation from erythrocytes, human placenta or rabbit muscle. The enzymatic fucosylation is preferably performed with α 1–3 fucosyltransferase isolated from human colonic adenocarcinoma Colo205 cell line in the presence of GDP-fucose. The antigens may be used as active tumor vaccines. 046–91

Ringworm vaccine; containing antigen from e.g. *Microsporum canis*, *Microsporum gypsum* or *Trichophyton mentagrophytes*
Jefferson-Labs
Eur. 393 371; 24 October 1990

A ringworm vaccine containing an antigen from one or more dermatophytes is new. The antigen is from *Epidermophyton floccusum*, *Microsporum audouini*, *Microsporum canis* (preferred), *Microsporum distortum*, *Microsporum equinum*, *Microsporum gypseum* (*Microsporum gypsum*) (preferred), *Microsporum nanum*, *Trichophyton concentricum*, *Trichophyton equinum*, *Trichophyton gallinae*, *Trichophyton gypsum* (*Trichophyton gypseum*), *Trichophyton megnini*, *Trichophyton mentagrophytes* (preferred), *Trichophyton quinckeanum* (*Trichophyton quinkeanum*), *Trichophyton rubrum*, *Trichophyton schoenleini*, *Trichophyton tonsurans*, *Trichophyton verrucosum*, *T. verrucosum* var. album, *T. verrucosum* var. discoides, *T. verrucosum* var. ochraceum or *Trichophyton violaceum*. The antigen is used to produce pre- or post-natal immunity and/or resistance to ringworm infection in mammals. The composition also contains an aluminium hydroxide gel carrier and an isotonic solution or lactated Ringer solution, and may also contain a dermatocyte killing agent, preferably formaldehyde, which may be added before homogenization. Cells may also be removed by filtration. 047–91

Herpes virus recombinant pox virus recombinant vaccine; recombinant vaccinia virus, canary-pox virus, fowl-pox virus construction by insertion of glycoprotein gene from foreign herpes virus, pseudorabies virus, Epstein-Barr virus or cytomegalovirus
Health-Res
World 9012 882; 1 November 1990

A recombinant pox virus containing glycoprotein gp13 and gp14 genes from a horse herpes virus in a nonessential region of the pox virus genome is claimed. The recombinant virus is preferably vaccinia virus, or an avipox virus e.g. canary-pox virus or fowl-pox virus, and may contain one, two or three glycoprotein genes. The foreign DNA insert preferably contains a promoter and α, β or γ-herpes virus DNA encoding gp13, gp14, gD, gp63 or gE, pseudorabies virus gp50, gpII, gpIII or gpI, herpes simplex virus gB, gC or gD, cattle herpes virus gI or cat herpes virus gB, Epstein-Barr virus gp220, gp340, gB or gH or human cytomegalovirus gB glycoprotein genes and is introduced into the pox virus genome by recombination. The recombinant pox virus may be expressed in a host for the production of recombinant glycoproteins. The recombinant pox virus may be used as a recombinant vaccine to avoid maternal immunity in newborn offspring. Methods for avoiding maternal immunity by using two new recombinant vaccines containing different glycoprotein genes to immunize the mother and the child, respectively, are also claimed. 048–91

Production of a vaccine against rotavirus disease; live attenuated strain containing the fourth rotavirus gene associated with attenuation
U.S. Dept. Health-Human-Serv
USA 4927 628; 22 May 1990

A new method for preparing a vaccine against rotavirus disease comprises: (1) isolating a rotavirus from humans having undergone asymptomatic rotavirus infection; (2) analyzing the isolated virus by confirming the presence of the desired fourth rotavirus gene associated with rotavirus attenuation; (3) growing a purified inoculum of the isolated rotavirus varying the fourth gene in cells acceptable for use in vaccines for administration to humans; and (4) using an immunogenic quantity of rotavirus-infected cells as a vaccine composition. The live attenuated human rotavirus induces immunity against rotavirus diseases without producing unacceptable pathological side effects in the susceptible host. 049–91

Live or inactivated canine coronavirus vaccine; new antigen dog coronavirus isolate
Akzo
Eur. 396 193; 7 November 1990

A novel vaccine protecting a susceptible animal against the clinical effects of a canine coronavirus (CCV) infection is derived from virus strain I-743 (CNCM, Institut Pasteur). Also claimed is a pure culture of a CCV of the serotype of strain I-743. The new strain of CCV (IN/SAV/C1) was isolated from a faeces sample from a puppy with severe gastroenteritis. The strain is not neutralized to any great extent in a neutralization test with antisera to the known isolates of CCV. However, antisera against IN/SAV/C1 neutralize to high titres of all known American strains as well as the IN/SAV/CA strain itself. The vaccine can be administered not only to dogs, but to other susceptible animals, such as cats and pigs. The live vaccines preferably contain the virus in an amount of 100 to 1 000 000 000 pfu/dose. The inactivated vaccine preferably contains the equivalent of at least 10 000 000 pfu/ml of the virus as determined prior to inactivation. 050–91

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