

Patent: Marburg Virus Vaccines Patent US-6517842-B1
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*Inventors are an assortment of scientist who have worked for the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID). Please note their emblem – they are no longer hiding anything. One of the images is a double helix.

Double helix: as related to genomics, is a term used to describe the physical structure of DNA. A DNA molecule is made up of two linked strands that wind around each other to resemble a twisted ladder in a helix-like shape. Each strand has a backbone made of alternating sugar (deoxyribose) and phosphate groups. Attached to each sugar is one of four bases: adenine (A), cytosine (C), guanine (G) or thymine (T). The two strands are connected by chemical bonds between the bases: adenine bonds with thymine, and cytosine bonds with guanine.

Abstract:

The invention here relates to recombinant DNA constructs which comprise a Venezuelan equine encephalitis replicon vector and at least one DNA fragment encoding a protective antigen from the Marburg virus. The DNA constructs are useful for inducing an immune response which is protective against infection with Marburg virus in nonhuman primates

Linked Taxonomies:

11620 - Lassa mammarenavirus:

Lassa fever is a hemorrhagic illness caused by Lassa mammarenavirus virus. The reservoir, or host, of Lassa virus is a rodent known as the “multimammate rat”. Once infected, this rodent is able to shed the virus in urine and droppings for an extended time period, maybe for the rest of its life. Transmission to humans occurs via contact with infected rodent urine and feces and via person-to-person contact with these materials, through touching soiled objects, eating contaminated food, or exposure to open cuts or sores, can lead to infection.

Lassa virus is a single-stranded RNA virus belonging to the Arenaviridae family and has been classified as a category A bioterrorism agent

Additional information on connection of Lassa virus and Ebola and Marburg Viruses.

<https://www.uptodate.com/contents/lassa-fever> - !

9606 - Homo sapiens (human)

*Please note the significance – the human species is references as a taxonomy (parasitical/bacterium/fungus yeasts) as an ingredient in this vaccine. It needs to be examined closely, as it will reveal that the goal is to convert the human species into a” taxonomy host”

Description given in the NIH Database of Homo sapiens (human): The bipedal primate mammal, Homo sapiens; belonging to man or mankind; pertaining to man or to the race of man; **use of man as experimental subject or unit of analysis in research.

P09211 - Glutathione S-transferase is a just one of the lethal linked proteins to the above. Diseases/Illnesses: Solid tumor/cancer, Myelodysplastic syndrome, Colorectal cancer, Lung cancer and Pancreatic cancer

<https://pubchem.ncbi.nlm.nih.gov/protein/P09211>

[10571](#) - Bovine papillomavirus (Bovine warts) (BPV): A group of double-stranded DNA viruses that cause warts on the skin and alimentary track of cattle and other mammals. Papillomas or fibropapillomas on teats develop due to infection with several strains of BPV. BPV's are very stable in the environment. Bovine warts are transmitted by direct and indirect contact, and bovine papillomavirus DNA has been identified in blood, milk, urine, and other biological fluids obtained from infected animals. Bovine papillomaviruses are small DNA tumoral viruses able to induce benign cutaneous and/or mucosal epithelial lesions. Generally, the benign tumors affecting the skin or mucosa spontaneously regress, but under special circumstances, the defense system may be overwhelmed, thus leading to cancer, especially in the presence of immunosuppressant and mutagen agents.

[11036](#) - Venezuelan equine encephalitis virus: Venezuelan equine encephalitis virus (VEEV) is an enveloped RNA virus that causes encephalitis and potentially mortality in infected humans and equines. VEEV has a high mortality rates and represent a significant zoonotic public health threat. The most pathogenic viruses are the alphaviruses in the family Togaviridae. Venezuelan equine encephalitis virus has caused the most widespread and recent epidemic outbreaks of disease. Circulation in naturally occurring rodent-mosquito cycles, results in viral spread to both human and equine populations. However, equines develop a high titer viremia and can transmit the virus back to mosquito populations. As such, the early recognition and control of viral infection in equine populations is strongly associated with prevention of epidemic spread of the virus and limiting of disease incidence in human populations. At present, no vaccines or drugs are available that prevent or cure diseases caused by VEEV.

[27292](#) - *Saccharomyces pastorianus*: *Saccharomyces pastorianus* is the yeast used to make lager beer; it is known to be an interspecific hybrid formed by the fusion between *S. cerevisiae* and *S. bayanus* genomes. This data set queries 17 *S. pastorianus* strains, collected at various times over the last 125 years from various breweries located in different geographical locations, which were obtained from CBS and DBVPG culture collections. The data in this set represent array-CGH experiments performed with these strains, using "2-species" custom Agilent arrays (the "2-species" arrays contain probes spaced every ~2 kb across the whole genomes of both *S. cerevisiae* and *S. bayanus*; the probes are unique and specific for each genome). The data set also contains 3 self-self-hybridizations (*S. cerevisiae* + *S. bayanus* DNA mixed together in equimolar amounts, then labeled green or red in separate reactions, then hybridized to the "2-species" arrays) used for normalization in CGH-Miner analysis.

A strain or line experiment design type assays differences between multiple strains, cultivars, serovars, isolates, lines from organisms of a single species.

Linked Proteins:

[P31817](#)

RNA-directed RNA polymerase (Infectious bursal disease virus 52/70)

[P12918](#)

RNA-directed RNA polymerase (Infectious bursal disease virus 002-73/AUS)

[P22173](#)

RNA-directed RNA polymerase (Infectious pancreatic necrosis virus - Jasper)

[P22174](#)

RNA-directed RNA polymerase (Infectious pancreatic necrosis virus - Sp)

[P04545](#)

Protein M2-1 (Human respiratory syncytial virus A2)

[P54891](#)

RNA-directed RNA polymerase (Apple chlorotic leaf spot virus (isolate APPLE))

[P27738](#)

RNA-directed RNA polymerase (Apple chlorotic leaf spot virus (isolate PLUM P863))

[P9WQ90](#)

Alanine aminotransferase (Mycobacterium tuberculosis CDC1551)

[P9WQ91](#)

Alanine aminotransferase (Mycobacterium tuberculosis H37Rv)

[P63499](#)

Alanine aminotransferase (Mycobacterium tuberculosis variant bovis AF2122/97)

[Q8AZL8](#)

RNA-directed RNA polymerase (Blotched snakehead virus)

[Q82630](#)

RNA-directed RNA polymerase (Infectious bursal disease virus chicken/UK/UK661/1989)

[A7L9Z4](#)

RNA-directed RNA polymerase (Infectious bursal disease virus chicken/Cuba/Soroa/1998)

[Q91CD5](#)

RNA-directed RNA polymerase (Drosophila x virus (isolate Chung))

[Q67683](#)

RNA-directed RNA polymerase (Groundnut rosette virus MC1)

[Q9E005](#)

RNA-directed RNA polymerase L (Andes orthohantavirus)

[V5IVB1](#)

RNA-directed RNA polymerase L (Black Creek Canal orthohantavirus)

[Q806Y6](#)

RNA-directed RNA polymerase L (Dobrava-Belgrade orthohantavirus)

[Q89709](#)

RNA-directed RNA polymerase L (Sin Nombre orthohantavirus)

[Q9YQR5](#)

RNA-directed RNA polymerase L (Tula orthohantavirus)

[P09958](#)

Furin (human)

[P23188](#)

Furin (house mouse)

[P23377](#)

Furin (Norway rat)

[Q28193](#)

Furin (cattle)

[Q9Q6Q5](#)

RNA-directed RNA polymerase (Gumboro virus)

Linked Genes:

[1798](#)

DPAGT1 - dolichyl-phosphate N-acetylglucosaminophosphotransferase 1 (human)

[2875](#)

GPT - glutamic--pyruvic transaminase (human)

[5045](#)

FURIN - furin, paired basic amino acid cleaving enzyme (human)

[13478](#)

Dpagt1 - dolichyl-phosphate N-acetylglucosaminophosphotransferase 1 (house mouse)

[18550](#)

Furin - furin (paired basic amino acid cleaving enzyme) (house mouse)

[76282](#)

Gpt - glutamic pyruvic transaminase, soluble (house mouse)

[54281](#)

Furin - furin (paired basic amino acid cleaving enzyme) (Norway rat)

[81670](#)

Gpt - glutamic--pyruvic transaminase (Norway rat)

[45957157](#)

GPT - xanthine phosphoribosyltransferase (Rhizobium phaseoli)

[61346842](#)

GPT - xanthine phosphoribosyltransferase (Pectobacterium carotovorum)

[60901531](#)

GPT - discontinued (Escherichia fergusonii)

[61752993](#)

GPT - discontinued (Shigella sonnei)

[66671444](#)

GPT - xanthine phosphoribosyltransferase (Shigella sonnei)

[49787044](#)

gpt - discontinued (Yersinia pseudotuberculosis)

[60851377](#)

gpt - discontinued (*Aeromonas salmonicida*)

[56963851](#)

gpt - discontinued (*Histophilus somni*)

[62225722](#)

gpt - discontinued (*Pasteurella multocida*)

[2539795](#)

gpt2 - UDP-N-acetylglucosamine--dolichyl-phosphate N-acetylglucosaminophosphotransferase (fission yeast)

[32604](#)

Fur2 - Furin 2 (fruit fly)

[47220](#)

Fur1 - Furin 1 (fruit fly)

[5656924](#)

Gpt - Glutamate pyruvate transaminase (fruit fly)

[403086](#)

gpt - glutamic--pyruvic transaminase (zebrafish)

[566557](#)

furina - furin (paired basic amino acid cleaving enzyme) a (zebrafish)

[569750](#)

furin - discontinued (zebrafish)

[549559](#)

gpt - glutamic-pyruvate transaminase (alanine aminotransferase) (tropical clawed frog)

[395457](#)

FURIN - furin, paired basic amino acid cleaving enzyme (chicken)

[453652](#)

FURIN - furin, paired basic amino acid cleaving enzyme (chimpanzee)

[488746](#)

FURIN - furin, paired basic amino acid cleaving enzyme (dog)

[539188](#)

GPT - glutamic--pyruvic transaminase (cattle)

[56731807](#)

gpt - xanthine phosphoribosyltransferase (*Cronobacter sakazakii*)

[61480213](#)

gpt - discontinued (*Rhizobium etli*)

[57210135](#)

gpt - xanthine phosphoribosyltransferase (*Pectobacterium atrosepticum*)

[1251836](#)

gpt - guanine-hypoxanthine phosphoribosyltransferase (*Salmonella enterica* subsp. *enterica* serovar Typhimurium str. LT2)

[61614219](#)

gpt - xanthine phosphoribosyltransferase (*Sinorhizobium medicae*)

[57243297](#)

gpt - xanthine phosphoribosyltransferase (*Pectobacterium brasiliense*)

[1024293](#)

gpt - xanthine-guanine phosphoribosyltransferase (*Shigella flexneri* 2a str. 301)

[45052093](#)

gpt - xanthine phosphoribosyltransferase (*Brucella suis* 1330)

[56470774](#)

gpt - discontinued (*Buchnera aphidicola* str. Bp (*Baizongia pistaciae*))

[24167418](#)

gpt - xanthine phosphoribosyltransferase (*Photobacterium laumondii* subsp. *laumondii* TTO1)

[57469701](#)

gpt - discontinued (*Rhodobacter sphaeroides* ATCC 17029)

[914363](#)

gpt - xanthine phosphoribosyltransferase (*Escherichia coli* O157:H7 str. Sakai)

[55590735](#)

gpt - xanthine phosphoribosyltransferase (*Brucella canis* ATCC 23365)

[944817](#)

gpt - xanthine-guanine phosphoribosyltransferase (*Escherichia coli* str. K-12 substr. MG1655)

[6800562](#)

gpt - xanthine phosphoribosyltransferase (*Proteus mirabilis* HI4320)

[7962317](#) gpt - discontinued (*Edwardsiella ictaluri* 93-146)

[66939874](#)

gpt - xanthine phosphoribosyltransferase (*Vibrio paracholerae*)

[57975493](#)

gpt - xanthine phosphoribosyltransferase (*Yersinia pestis* A1122)

[45665576](#)

gpt - xanthine phosphoribosyltransferase (*Cronobacter dublinensis* subsp. *dublinensis* LMG 23823)

[61603107](#)

gpt - xanthine phosphoribosyltransferase (*Sinorhizobium meliloti* 2011)

[56904445](#)

gpt - xanthine phosphoribosyltransferase (*Gluconobacter oxydans* DSM 3504)

[57990680](#)

gpt - discontinued (*Vibrio metoecus*)

[60667272](#)

gpt - discontinued (*Escherichia marmotae*)

[61331384](#)

gpt - discontinued (*Klebsiella quasivariicola*)