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After him the List gives the names of kings who ruled at Ur. In any case, Akkadian is also well-attested in this period, even in the names of kings. Ur III administrative tablet Even though the absolute chronology of the Ur III-period remains uncertain, its history is based on a firm relative chronology derived from yearnames: Those names were then used as a uniform system throughout the empire to date -mainly administrative - texts. It can be stated with little doubt that the Ur III-period is one of the best documented periods in history: From that source material we can glean large views of the economic and political system, but also of daily life in almost colourful detail. Thus the texts show an extremely centralised empire managed by a huge bureaucracy. It is not entirely clear how he came to power: During his reign, Ur-Nammu undertook many building projects, the most famous of which is the building of the ziggurat at Ur. A ziggurat was part of the temple complex in the form of a tower; its cultic significance is very debated. We all know the ziggurat of Babylon that is described in the biblical story of the Tower of Babel. The ziggurat of Ur today. Furthermore, Ur-Nammu was responsible for starting a policy of reorganisation aimed at centralisation that would continue to be implemented by his successors. Shulgi is the most famous ruler of the Ur III-dynasty who ruled for 38 years. During that time he firmly established a large empire including large parts of Elam in the east. It seems that most reforms were carried out by this king, resulting in a heavy bureaucratized society. The scribal curriculum underwent some changes as well: Sumerian re gained an important place and new literary genres were created, most importantly the royal hymn. The royal hymn had its function in that cult. Moreover, by the end of the 21st century BC, local governors had again taken so much power in hands that they must be considered to have acted independently for example Ishbi-Erra of Isin. The bala-system thus formed an easy way to redistribution of means. The peripheral provinces were organised differently: Moreover, their command lay solely with a military leader and a professional army was stationed there permanently compare with the Roman limes. Finally, there were those regions that did not stand under political control of the Ur III-kings. Still, they ensured friendly relationships through diplomatic marriages: At the heart of this all was the city of Ur. His righteous city which has been destroyed - bitter is its lament; his Ur which has been destroyed - bitter is its lament.

Chapter 2 : GARP | Department of Veterans' Affairs

The book traces not only the political history of Russia, but also developments in its literature, art and science. Bushkovitch describes well-known cultural figures, such as Chekhov, Tolstoy and Mendeleev, in their institutional and historical contexts.

Comments A veterinarian is a medical professional who protects the health and well-being of both animals and people. They diagnose and control animal diseases and treat sick and injured animals. They also advise owners on proper care of their pets and livestock. Veterinarians provide a wide range of services in private practice, teaching, research, government service, public health, military service, private industry, and other areas. Vaccinates against diseases, such as distemper and rabies Medicates animals suffering from infections or illnesses Treats and dresses wounds Performs minor to complex surgery, depending on training Advises owners about animal feeding, behavior and breeding Euthanizes animals when necessary Provides preventive care to maintain the health of livestock Performs diagnostic tests such as X-ray, EKG, ultrasound, blood, urine, and faeces In many respects, a veterinarian is similar to a pediatrician. Excellent people skills and communication skills are required. What cannot be obtained from the clinical history is acquired with the fingers, eyes, and smell. The ability to listen with a stethoscope and palpate with the fingers and hands will reveal much of the physical findings. What cannot be revealed by the history and exam is further supported by diagnostic tests like blood work, urinalysis, and fecal exams. Veterinarians are well trained in laboratory medicine and parasitology. The general practice veterinarian spends one-third to one-half of his or her time in surgery. Many veterinarians also perform orthopedic procedures, bone setting, dentistry, and trauma surgery. Surgery requires good hand and eye coordination, and fine motor skills. When health problems arise, veterinarians diagnose the problem and treat the animal. Accurate diagnosis frequently requires laboratory tests, radiography, and specialized equipment. Treatments may involve a number of different procedures including emergency lifesaving techniques, prescribing medication, setting fractures, birthing, performing surgery, or advising an owner on feeding and care of the animal. To prevent the introduction of foreign diseases, veterinarians employed by government agencies quarantine and inspect animals brought into the country from other countries. They supervise shipments of animals, test for the presence of diseases and manage campaigns to prevent and eradicate many diseases such as tuberculosis, brucellosis, and rabies, which threaten animal and human health. A veterinarian in research looks for better ways to prevent and solve animal and human health problems. Many problems, such as cancer and heart disease, are studied through the use of laboratory animals, which are carefully bred, raised, and maintained under the supervision of veterinarians. There are many veterinarians that are professors , teaching at schools and universities of veterinary medicine. In addition to teaching, veterinary school faculty members conduct basic and clinical research, contribute to scientific publications, and develop continuing education programs to help graduate veterinarians acquire new knowledge and skills. Veterinarians also work in the area of public health. They help to prevent and control animal and human diseases and promote good health. As epidemiologists they investigate animal and human disease outbreaks such as food-borne illness, influenza, plague, rabies, AIDS, and encephalitis. They evaluate the safety of food processing plants, restaurants, and water supplies. Veterinarians in environmental health programs study and evaluate the effects of various pesticides, industrial pollutants, and other contaminants on people as well as on animals. As opposed to human medicine, general practice veterinarians greatly out-number veterinary specialists. Most veterinary specialists work at a veterinary school, or at a referral centre in large cities. As opposed to human medicine, where each organ system has its own medical and surgical specialties, veterinarians often combine both the surgical and medical aspect of an organ system into one field. The specialties in veterinary medicine often encompass several medical and surgical specialties that are found in human medicine. Within each veterinary specialty, one will often find a separation of large animal medicine from small animal medicine. Some veterinary specialties are evolving, some are limited only in the teaching universities, and some are practiced only in the field. Find your perfect career Would you make a good veterinarian? Take the free career test What is the workplace of a Veterinarian like? Small animal

veterinarians typically work in veterinary clinics or veterinary hospitals, or both. Large animal veterinarians often spend more time traveling to see their patients at the primary facilities which house them zoos, farms, etc. Waiting rooms are available often with separate areas for dogs, cats, and exotics. Veterinarians may be employed or contracted by veterinary clinics and hospitals, government agencies, educational institutions, wildlife management groups, zoos, aquariums, ranches, farming-related businesses, or pharmaceutical companies. The following are examples of types of veterinarians: Companion animal Veterinarians These veterinarians diagnose and treat diseases or abnormal conditions in animals, most often cats and dogs. They are the most common type of veterinarian and provide inoculations; prescribe medication; set bones; dress wounds; perform surgery and dental work; offer euthanasia services; and advise clients on the general care of their animals. Veterinary Practitioners These are veterinarians in clinical practice who have advanced training and expertise in a particular animal species.

Chapter 3 : Veterinary medicine - Biodiversity Heritage Library

Even though the absolute chronology of the Ur III-period remains uncertain, its history is based on a firm relative chronology derived from yearnames: as in the Old-Akkadian period, Ur III-kings named the years of their reigns after important military and religious events.

Reactions are caused by the encephalomyelitis, is widespread in many regions of the world. It is a zoonotic factor a basic protein associated with myelin subject of great concern because of its propagation among arising from adult animal nerve tissue employed as substrate, such as foxes, wolves, skunks, raccoons, bats, etc. Reactions involve neuroparalytic accidents likely mongoose and, obviously, dogs, which behave as a permanent reservoir for the virus. Administering several doses of a suspension of made long treatments necessary with a great number of desiccated rabbit marrow extracted from an animal infected inoculations. These vaccines, generally sold in a liquid with rabies virus, Pasteur managed to cure a young vehicle, had low stability of approximately 6 months. Since then, several types of vaccine have been developed and employed. Vaccines manufactured with embryonated eggs. An adaptation of rabies virus strains in duck embryos [7,39,69,81,] Pitman Moore strain enabled the development of much safer rabies vaccines for human use, diminishing neuroparalytic post-vaccinal encephalomyelitic First generation vaccines are all produced using an animal reactions. These vaccines have The incidence of neurological reactions is much lower been widely used in humans as well as in animals. Table 1 less than three per treatments in human vaccines shows the main features of first generation vaccines. Con- produced in duck embryos than in those produced in nerve tissue. However, local reactions are quite common, reaching first generation vaccines may be classified as follows: Immunogenicity of this vaccine type is a matter of debate due to the low antibody level tissues provided in some cases [20,26,34,53,79,98,99,]. Flury Vaccines based on adult animal nerve tissues are not unlike and Kelev fixed virus strains were adapted to chick embryo the first vaccine developed by Louis Pasteur. However, through repeated passaging for Flury and 70 for numerous complications are observed, namely: Kelev, yielding attenuated viral strains [50]. Vaccines produced with attenuated virus in chicken embryos are used I Presence of residual live virus: Fermi vaccine [29,62], which contain live virus because Very high quality embryonated eggs must be free from of deficient inactivation with phenol, are considered all kinds of adventitious virus aviary leukosis and bacteria mixed vaccines residual live virus and inactivated virus salmonella for use in vaccine production. I Post-vaccinal encephalomyelitic reactions: Together with the higher viral productivity achieved in new-born animal nerve tissue, this finding has fostered development of vaccines employing Correspondence: CVS, 51 and Strains are inoculated in 3-day-old mice employing radioactively immunosuppressed animals, with and 4 days later rabies symptoms become apparent, when a high viral titer. This vaccine is employed in all Latin American and several African countries as well. It is Second generation vaccines employed in humans pre- and post-exposure and in animals. During the of Buenos Aires, Argentina, consisting in changing the substrate following 10 years, propagation of fixed rabies virus strains strate to employ suckling rats instead of mice [90] in mouse embryo brain culture was reported []. In , according to Kabat et al [42] and Svet-Moldavskij et al Plotz and Reagan infected a primary chicken embryo cell []. Tumoral cells have ize myelin content in the viral mass harvest, a process also been used for virus culture and isolation. In , San- allowing a high viral productivity " LD50 in mice ders et al published the results of an assay on rabies virus to be achieved with shorter harvest times 3 days post adaptation to cell culture [88]. This vaccine containing inactivated virus does vaccine produced in cell culture, employing a SAD virus not present specific rabies virus hazards. A potential strain originally isolated from a rabid dog brain. Since then, immunopathological risk exists, however, due to the encephalomyelitis researchers have originated several vaccines in primary cell phalitogenic factor related to a protein similar to mouse cultures of different types. Currently, cell culture vaccines brain myelin [18,36,55,], which has not been described may be classified in three groups depending on the cell in rats. Improvement of this production technique made it system employed for their

production: This vaccine has been employed in Argentina since and only a few First group: The first group comprises vaccines manu- isolated cases of human rabies have been reported during factured in primary mammalian cell cultures, such as ham- the last 14 years. Second group vaccines are produced depending on the type of vaccine and have much more in diploid cells of regular cariogenicity and duplication, stringent requirements, which pose a challenge for their mainly of human origin WI38 [9,,], MRC5 development, such as: Some vaccines of animal origin Rhesus mon- key fetus [14,17] likewise pertain to this group. I Vaccines must be fully inactivated. I Normal diploid cariotype cells employed as substrate for Third group: The third group includes vaccines rabies virus replication must contain neither oncogenes developed in heteroploid cell culture as the Vero line nor be transformed. The development of rabies vaccines for veterinary use, Many studies and extensive investigation carried out to which are usually employed for prevention one annual test potential oncogenic damage in continuous cell lines dose for dogs , was more widely favored than that of vac- have disclosed that some of them, such as the Vero line cines for human use. This preference is due not only to a derived from the African green monkey Cercopithecus greater demand for the former but also because production Aethiops , are free of these oncogenic properties and requirements are less stringent for veterinary vaccines. The present no risks for human health when used in vaccine main features of production processes for these rabies vac- manufacture [48,71,]. The main features of production processes for these rab- ies vaccines are listed in Table 3. Conventional cul- have been accepted as substrate. These cell types allow ture in Roux or roller bottles is one of the amplification an easy industrial scale up, performing culture in differ- systems employed. In order to scale up and increase the ent systems roller, spinner flask, stirred bioreactors, air- yield, spinner flasks Figure 1 and bioreactors Figure 2 lift and hollow fiber , thus increasing the yields. Among the different types of reactors, I Vaccines manufactured with live attenuated virus are those with magnetic stirring, airlift and hollow fiber are the permitted for animal immunization [1â€™3] allowing oral most widely used. Both airlift and hollow fiber reactors vaccination of wildlife, employing rabies virus strain afford the advantage that they generate low shear forces to SAD [,] or SAD-B19 [16,19,30] clone. I Addition of certain adjuvants is permitted, enhancing An excellent alternative to obtain high cell concen- vaccine action [28,51,78]. Tri n -butyl-phosphate; bPL: Figure 1 Configuration of the spinner flask perfused system employed for cell cultures on microcarriers. Cell infection in work units. Thus, cell density reached in BHKC13 may be carried out in a suspension or in a monolayer. In order to reach systems. Correlation toxic metabolite concentration mainly ammonium and between cell density and antigen concentration achieved lactate and temperature. Bioreactor yield expressed as a after infection is a complex function. In theory, once infec- function of the medium employed is 4- to 5-fold higher tion conditions are optimized, the greater the number of than in a conventional roller system and 1. However, than in spinner flasks. Evaluation of kinetic parameters for this is not always the case, probably due to the fact that nutrient consumption and toxic metabolite production, as there is no homogeneity in the metabolic status of all cells. For vaccines produced in cell culture, viral antigen concentration and purification processes are very common. Many methods have been described for this purpose [12], some of which are shown in Table 3. In large-scale production, the most commonly employed techniques are ultrafiltration and cen- trifugation in a continuous density gradient. The first tech- nique is a simple and efficient method to concentrate anti- gen but its main disadvantage lies in the fact that several undesirable proteins are also concentrated. Although the second technique is more complex, it is excellent not only to concentrate but also to purify materials. Inactivation is mandatory for vac- cines to be used in humans. Several methods are available for rabies virus inactivation see Table 3. If a chemical- inactivating reagent is used, concentration, inactivation temperature and time must be established for each type of vaccine. One of the most successfully employed agents for these types of vaccines is b-propiolactone used in a heated environment. This method has proven to be the best method for inactivating rabies virus leaving the lowest amount of residual DNA from the cell substrate [74]. Its main disad- vantage lies in the high cost of the reagent, and its extreme toxicity before thermal treatment. Ultraviolet radiation is also employed, in which case, dosage and application times are critical in order to achieve total virus inactivation with- out diminishing antigenicity. Figure 3 Scanning electron micrographs: Most of these cells on gelatine non-porous microcarriers. Due to this, the expiration date is almost control of rabies III. Laboratory studies on SAD-B19

vaccine used a year longer than that for material produced in liquid form. Efficacy of rabies vaccine prepared from virus grown in duck embryo. Two spontaneously transformed cell lines derived Acknowledgements from the same hamster embryo culture. Int J Cancer 2: Antirabies vaccine The authors express their gratitude to both Dr Liliana Segre from the brain of the suckling rat: Bol Ofic Sanit Panam Two year ing the English version of the manuscript. Acta 1 Abelseth MK. An attenuated rabies vaccine for domestic ani- Virol Prague Can Vet J 5: Further studies on the use of ERA rabies vaccine The efficacy of the ERA rabies vaccine in mice against 4 anti- in domestic animals. Can Vet J 8: Rev Saude Publica Nouveau vaccin antira- Med 1: Ann Microbiol Inst 27 Fenje P. A rabies vaccine from hamster kidney tissue cultures: Can J Microbiol 6: Purifi- 28 Fenje P and L Pinteric. Am J Pub Hlth Ann Microbiol Inst 29 Fermi C. Immunization of arctic Adamovicz. Zonal centrifuge purification of human rabies vac- foxes Alopex lagopus with oral rabies vaccine. J Wildl Dis A new vaccine produced from rabies virus Pre-exposure rabies vaccination using a new duck embryo vaccine.

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Tri n -butyl-phosphate; bPL: Figure 1 Configuration of the spinner flask perfused system employed for cell cultures on microcarriers. Bioreactor yield expressed as a function of the medium employed is 4- to 5-fold higher than in a conventional roller system and 1. Evaluation of kinetic parameters for nutrient consumption and toxic metabolite production, as well as their relationship with cell growth, allows the yield to be enhanced by correlating an adequate number of cells to maximum antigen production. Cell infection may be carried out in a suspension or in a monolayer. In order to reach a maximum yield in viral productivity some intrinsic factors related to the cell-virus couple including incubation temperature, infection multiplicity, time and harvest number , and some extrinsic factors related to the employed methodology must be taken into account. Correlation between cell density and antigen concentration achieved after infection is a complex function. In theory, once infection conditions are optimized, the greater the number of cells, the larger the number of produced virus. However, this is not always the case, probably due to the fact that there is no homogeneity in the metabolic status of all cells. Mass and energy transfer processes in systems with high cell density are complex and closely related to metabolic functionality. For vaccines produced in cell culture, viral antigen concentration and purification processes are very common. Many methods have been described for this purpose [12], some of which are shown in Table 3. In large-scale production, the most commonly employed techniques are ultrafiltration and centrifugation in a continuous density gradient. The first technique is a simple and efficient method to concentrate antigen but its main disadvantage lies in the fact that several undesirable proteins are also concentrated. Although the second technique is more complex, it is excellent not only to concentrate but also to purify materials. Inactivation is mandatory for vaccines to be used in humans. Several methods are available for rabies virus inactivation see Table 3. If a chemical inactivating reagent is used, concentration, inactivation temperature and time must be established for each type of vaccine. One of the most successfully employed agents for these types of vaccines is b-propiolactone used in a heated environment. This method has proven to be the best method for inactivating rabies virus leaving the lowest amount of residual DNA from the cell substrate [74]. Its main disadvantage lies in the high cost of the reagent, and its extreme toxicity before thermal treatment. Ultraviolet radiation is also employed, in which case, dosage and application times are critical in order to achieve total virus inactivation without diminishing antigenicity. Figure 3 Scanning electron micrographs: Due to this, the expiration date is almost a year longer than that for material produced in liquid form. References 1 Abelseth MK. An attenuated rabies vaccine for domestic animals produced in tissue culture. *Can Vet J* 5: Further studies on the use of ERA rabies vaccine in domestic animals. *Can Vet J* 8: Propagation of rabies virus in pig kidney cell culture. Nouveau vaccin antirabique humain de culture cellulaire primaire. *Ann Microbiol Inst Pasteur B*: Zonal centrifuge purification of human rabies vaccine obtained on bovine fetal kidney cells: *Dev Biol Stand* Pre-exposure rabies vaccination using a new duck embryo vaccine. *Schweiz Med Wochenschr* Results of antibody profiles in man vaccinated with the HDCS vaccine with various schedules. *Symp Ser Immunobiol Stand* Successful protection of humans exposed to rabies infection postexposure treatment with the new human diploid cell rabies vaccine and antirabies serum. *J Am Med Assoc* A new inactivated tissue culture rabies vaccine for use in man: *J Biol Stand* Concentration of rabies antigen and potency test. International Green Cross, Geneva. Rabies vaccine prepared from the virus grown in Japanese quail embryo cell cultures. Rhesus diploid rabies vaccine adsorbed: Purified chick embryo cell PCEC rabies vaccine: Oral vaccination in the control of feral rabies. *J Infect Dis* *J Neurol Sci* The Italian experience in the 20 21

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