Toxoplasmosis is a disease caused by a parasite called Toxoplasma gondii. The parasite mostly infects warm-blooded animals including humans but the primary host is the field (cat) family. The primary hosts are the cats they carry the virus and can possibly infect other animals. Pigs can get infected by eating contaminated water and food with cat feces, or by eating other contaminated dead pigs’ ears, and tails, or by eating infected rodents or other uncooked meat. Once the parasites invade the pigs’ organisms it will form cysts in muscles and other organs where they remain viable for long periods of time. The parasites will mature and eventually it can be a source to infect human. The presence of the parasites in pigs rarely results in clinical disease unless infection occurs in pregnant pigs which can lead to SMEDI (stillbirth, mummification, embryonic death and infertility). If a human eats pig meat infected with Toxoplasma gondii, it will show two stages; acute and latent. During acute toxoplasmosis will include the following symptoms; swollen lymph nodes and muscle aches. Latent toxoplasmosis is the time where bradyzoites will form cysts in nervous and muscle tissue. Toxoplasmosis parasite can also trigger schizophrenia, bipolar disorders, Parkinson’s Disease, Tourette’s syndrome and ADD (attention deficit disorders). Over half of the world's human population is estimated to carry a Toxoplasma infection. Trimethoprim/sulfamethoxazole is the drug of choice to prevent Toxoplasma, but is not the drug to treat.

Foot-and-mouth disease (FMD) is caused by the foot-and-mouth disease virus (FMDV) which is a single stranded RNA virus from the Picomaviridae family and Aphthovirus genus. It is a very small nonenveloped icosaedral virus. The foot-and-mouth disease virus occurs in seven major serotypes: O, A, C, SAT-1, SAT-2, SAT-3, and Asia-1. These serotypes show some regionality, and the O serotype is most common. FMDV is a very contagious disease and can be transmitted through air, water, and food. It can infect cattle, water buffalo, pigs, goats, sheep, and horses. The symptoms of this disease include fever and blister-like lesions followed by erosions on the tongue and lips, in the mouth and between the hooves. Raksha fmd vaccine (India) contains inactivated fmd virus strains o, a, c and asia-1 adsorbed on aluminium hydroxide as an adjuvant. FMD vaccine (intervet, Merck) Decivac® FMD DOE contain antigens of the FMDV types O, A, C, Asia1 and SAT1, SAT2, SAT3 (monovalent or multivalent) for the active immunisation of pigs, cattle, buffalo, sheep and goats against Foot and Mouth Disease.

Pseudorabies is a viral disease in swine which is caused by porcine herpesvirus 1, which is also called pseudorabies virus (PRV) or suid herpesvirus-1 (SuHV-1) and is also known as Aujeszky’s disease, and in cattle as mad itch. PRV is considered to be the most economically important viral disease of swine in areas where hog cholera has been eradicated. The word “pseudorabies” means “false rabies,” or “rabies-like;” pseudorabies is related to the herpes virus, not the rabies virus. PRV is in the group I double stranded DNA virus from the family Herpesviridae and genus Varicellovirus. PRV infected pigs show no clinical symptoms unless it infects pregnant pigs which will lead to SMEDI (stillbirth, mummification, embryonic death and infertility). Adult pigs are the host carrier for the virus, but it will infect cattle, sheep, cats, dogs, goats, raccoons, opossums, skunks and rodents. Symptoms for those infected animals are scratching and biting themselves followed by neurological sings and eventually death. For dogs and cats pseudorabies is so dangerous that it can cause sudden death without even having symptoms. However, PRV are harmless in human. Pseudorabies vaccines (Pocilis AD Begonia, Merck) A live attenuated vaccine for the immunization of pigs against Aujeszky’s disease virus infections (Pseudorabies). The vaccine based on the virus strain NIA-3(tk- and gE-). Diluvac Forte® is used as a diluent. The gE deletion allows field infections to be differentiated from vaccination responses.

Hog Cholera is also called Classical swine fever (CSF). It is very contagious among pigs and wild boar. The virus responsible for this disease is called CSFV. It is classified in the Group IV (+) ssRNA, it is a lipid-enveloped pathogen which belongs to the genus Pestivirus in the family of Flaviviridae. CSFV is very similar to a ruminant pestiviruses which cause Bovine Viral Diarrhoea (BVDV) and Border Disease (BDV). Pigs and wild boars are the only hosts for CSF. The virus will live in the blood, tissues, secretions and excretions from the infected animal. It is transmitted mostly by the oral route, conjunctiva, mucous membrane, skin abrasion, insemination and percutaneous blood transfer. Once the animal is infected the incubation period is normally from 3 to 4 days but can range between 2 to 14 days. After four days to three weeks of the virus entered the animal's system the symptoms will start with fever which will lead to loss of appetite, depression, withdrawal from other animals, reddened and draining eyes, vomiting, constipation or diarrhea, and coughing and difficulty in respiration. CSFV is diagnosed by histology or the presence of antibodies by ELISA. Porcilis CSF Live is based on the Classical Swine Fever virus strain GPE-. The resulting vaccine is highly effective and proven safe as it does not spread to other pigs. The resulting vaccine is highly effective and proven safe as it does not spread to other pigs.

Porcine Circovirus (PCV) is a single stranded DNA virus (group II). It is a non-enveloped with an un-segmented circular genome. PCV is the smallest virus to be able to replicate autonomously in eukaryotic cells. PCV replicates in the nucleus of infected cells using the host's polymerase for genome amplification. There are two strains, the Type 1 PCV and Type 2 PCV. Type 1 PCV has not been found any disease affecting swine. Type 2 PCV causes postweaning multisystemic wasting syndrome (PMWS) which eventually leads to depletion of lymphocytes. Side effect of PCV2 infection includes poor growth, weight loss, enlarged lymph nodes, difficulty breathing, jaundice, fever, stomach ulcers, diarrhea and sudden death. An effective vaccination is now available. Fostera PCV2 vaccine (Fort Dodge) contains inactivated virus (ATCvet code: Q09AA07). Porcilis vaccine against porcine circovirus type 2 (PCV2) contains ORF2 subunit antigen: at least 4.5 log2 ELISA units For the active immunisation of pigs to reduce the virus load in blood and lymphoid tissues and to reduce mortality and weight loss associated with PCV2 infection occurring during the fattening period.