Transmissible Spongiform Encephalopathies (TSEs), also known as prion diseases, are a family of diseases, first identified in late 1386 in the UK, occurring in humans and animals and are characterized by a degeneration of brain tissue giving a sponge-like appearance leading to death.

The family includes diseases such as Creutzfeldt Jakob Disease (CJD) and Kuru in humans, Bovine Spongiform Encephalopathy (BSE) in cattle, Scrapie in small ruminants (sheep and goats), Chronic Wasting Disease (CWD) in cervids and Transmissible Mink Encephalopathy (TME) in minks. The commonly accepted cause of the TSE disease is a transmissible agent called prion (PrPres), which is an abnormal form of a protein. The degenerative tissue damage caused by human prion diseases (CJD, GSS, and kuru) is characterized by four features: spongiform change, neuronal loss, astrocytosis and amyloid plaque formation.

TSEs are unique diseases and their aetiology may be genetic, sporadic, via iatrogenic or transmission via ingestion of infected foodstuffs. This transmission occurs when healthy animals consume tainted tissues from others with the disease.
Bovine Spongiform Encephalopathy (BSE)

In recent times a type of TSE called bovine spongiform encephalopathy (BSE) spread in cattle in an epidemic fashion. In the United Kingdom, the country worst affected and the first with a confirmed case in 1986, more than 180,000 cattle were infected and 4.4 million slaughtered during the eradication program. After the first case indentified in UK, 24 more countries have suffered the illness. BSE cases in countries outside the U.K. appear to be a result of importation of live cattle that were harvested, rendered and fed back to ruminants, or importation of contaminated meat and bone meal derived from BSE-infected U.K. cattle for use as a protein supplement in cattle feed. This is a practice now banned in many countries. The epidemic could have begun with just one cow with sporadic disease.

The common symptoms of BSE include behavioral changes, lack of coordination, difficulty in walking or standing up, decreased milk production and weight loss. However, the disease has also been detected in animals showing no symptoms or atypical signs of the disease. The average incubation period of BSE in cattle is 4-6 years, but it can be much longer. BSE was first diagnosed in the UK in 1986, and reached epidemic proportions due to cattle being fed with processed animal protein, produced from ruminant carcasses, some of which were infected. BSE is considered to be transmissible to humans.

CONDA respond for limiting BSE risks

While transmission mechanisms of this Prion (within a single species or from one species to another species) are not well known, the transmission minimization of those Prions through pharmaceutical products is a major concern.

For this reason, CONDA has always worked to limit the BSE risk of our products and assure all our products with bovine source come from cows BSE free countries like Australia and New Zealand. CONDA Peptones and extracts are fully traceable and sanitary/veterinary certificates or certificate of origin from each lot are available. These certificates inform about the origin and, where applicable, the animal species, the type of tissue, the country of origin, feeding and slaughtering as well as the inactivating treatment.

Also, concern by the growth in demand for animal-free products in biopharmaceutical industry, CONDA started to expand the vegetal origin products offer to meet the needs of these industries. The number of peptones with vegetal origin has expanded and CONDA S.A. has developed a broad offer of soy peptones, yeast extracts, malt extract and other vegetal origin. These peptones are characterized by being rich in high-quality proteins, carbohydrates, calcium, vitamin B and other micronutrients.

Following this line to use vegetal origin peptones in our culture media, CONDA S.A. has recently developed new products for Molecular and Microbiology.

MOLECULAR BIOLOGY VEGETAL ORIGIN PRODUCTS:
Cat. 1499 TERRIFIC BROTH (no animal source)
Cat. 2039 LB (LENNOX) VEGETAL AGAR
Cat. 2038 LB (LENNOX) VEGETAL BROTH

MICROBIOLOGY VEGETAL ORIGIN PRODUCTS:
Cat. 1380 VEGETABLE PEPTONE BROTH
Cat. 1268 YEAST EXTRACT SOY BROTH (T.S.B non animal source)
Cat. 2060 OATMEAL AGAR

Bibliography


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