

## Detection of Specified Risk Material (SRM) in Meat Products with Regard to Human Exposure Risk To BSE-Infectivity

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Tissues of the central nervous system (CNS: brain, spinal cord) and some tissues of the peripheral nervous system (such as dorsal root ganglia) have been shown to contain up to and more than 95% of BSE-infectivity in animals approaching the end of the incubation period. The ideal level of protection of consumers from exposure to BSE-infectivity would be the absence of infected animals from the human food chain. As this cannot be reasonably guaranteed, the second level of protection of consumers from exposure to BSE-infectivity is the removal of specified risk material (SRM), particularly CNS-based SRM.

In order to control the ban on SRM, a method for detection of CNS in final meat products was developed. This method is particularly based on the immunological detection of one marker-protein, the neuron specific enolase (NSE,  $\gamma$ -enolase). Following the development of an integrated procedure for CNS detection in meat products (i) a large number of samples from retail outlets were analyzed

(n>3.000), (ii) the method was officially established at the Federal Veterinary Office in Switzerland for import control, (iii) a test kit (based on NSE western blotting) was developed and commercialized, and (iv) an international validation study was conducted.

CNS addition was shown to be at a low level of incidence in most meat products from German retail food outlets, such as raw sausages, emulsion type sausages and cooked sausages. In some groups of products, however, the CNS-incidence was found to be as high as 10 to 20%, particularly in finely graded liver sausages and cooked sausages of the "mettwurst" type. Following the introduction of the CNS-test, CNS-incidence in meat products is now observed to decrease significantly, demonstrating its effectiveness.

Overall, experiences in establishing and validating the method as an additional measure to control human exposure to BSE-infectivity show promising results.

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