with other recently published data.[3-5] In addition, our kinetic data suggest seeded reactions are an ordered, on-pathway amyloid formation mechanism, as previously described.[6] The consistencies in our reaction behaviour bestow the confidence required to satisfy rigorous diagnostic demands. Future research is aimed toward qualitative analysis of our elk CWD-seeded RT-QuIC reaction products.

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P.172: BSE exposure risk from bovine intestine and mesentery

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Bovine intestines and mesenteries in the European Union (EU) are considered among the tissues potentially containing the highest level of BSE infectivity and have to be removed from the food and feed chain. A quantitative assessment of the BSE infectious load potentially entering the food and feed chain yearly in the European Union (EU) was developed. The evolution of the BSE infectious titre and of the weight of the structures accumulating infectivity was considered. The number of BSE infected cattle entering undetected in the food and feed chain yearly was estimated. A model (TSEi) was developed to estimates the evolution of the BSE infectious load in animals and the total yearly infectious load that could enter the food and feed chain. In a BSE infected bovine, the distribution of infectivity in intestines and mesentery varies with the age. Up to 36 months of age the infectivity is mainly associated (on average more than 90%) with the last 4 metres of small intestine and the caecum, over 36 and under 60 months of age, there is an inter-individual variability, from 60 months of age the infectivity is mainly associated (on average more than 90%) with the mesenteric nerves and the celiac and mesenteric ganglion complex. The total amount of infectivity peaks, about 15 $BoID_{50}$, in animals younger than 18 months, it declines to 8-9 $BoID_{50}$ (24–48 months of age) and it drops to 0.7 $BoID_{50}$ in animals older than 60 months. The ileo-caecal plate is the most infectious part of the intestine and it can be used to estimate the potential maximum level of exposure for an individual consumer. In the EU, between 2007 and 2012, the yearly amount of BSE infectivity associated with intestine and mesentery from animals entering the food and feed chain was reduced by a factor of 10 (from about 23,000 to about 2,000 $BoID_{50}$). However, the maximum level of exposure to the BSE agent from intestine remained stable (on average about 1.5-1.6 $BoID_{50}$ per meter). In case of re-emergence of BSE in the EU there would be an increase of the potential maximum level of exposure to BSE from intestine. According to the TSEi model the removal of the last four metres of the small intestine and of the caecum from the food and feed chain would result in a major reduction of the BSE exposure risk associated with intestine and mesentery in cattle.

P.173: Evaluation of immunogenicity of prion vaccine administered together with vaccine enhancing agent

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Transmissible spongiform encephalopathy (TSE) is a neurodegenerative disorder characterized by pathologic accumulation of a misfolded form of a normal cellular protein in neurons. Emergence of TSEs in wildlife populations and the ability of some TSEs to cross species barriers have prompted concern regarding the lack of treatment options or prevention strategies. Efforts at vaccine development have been hampered by the difficulty of overcoming self-tolerance. Studies in our lab have demonstrated that vaccine induced immunity is often diminished due to the recruitment of anti-inflammatory myeloid cells. We hypothesized that utilizing an effective antigen while simultaneously inhibiting monocyte migration could elicit a more effective anti-prion response.

The vaccine was formulated using a peptide fragment of the human prion protein (PrP106-126). This peptide spontaneously forms fibrillar aggregates and is thought to mediate the