samples, 43 regulated protein spots between VV2 and control samples and only 9 regulated protein spots between MM1 and VV2 samples. Further identification of these differentially regulated protein spots by Q-TOF MS/MS and then validation of identified regulated proteins by western blot was done. Altogether, these results indicate the codon 129 genotype of PrP based proteomic alterations and role of PrP^{C} in neurodegeneration in prion diseases in general and in sporadic Creutzfeldt-Jakob disease in particular which may help to discover some early novel diagnostic markers and therapeutic strategies as well.

P.16: Glycosaminoglycan modulation affects cellular prion replication downstream of PrP^{Sc} internalization

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Prions are unconventional infectious agents composed primarily of misfolded aggregated host prion protein PrP, termed PrP^{Sc}. Conversion of cellular prion protein into PrP^{Sc} occurs on the cell surface or along the endocytic pathway. The precise mechanisms and cellular requirements for PrP^{Sc} uptake, the initial PrP^{Sc} formation and the persistent PrP^{Sc} propagation still remain unknown. Glycosaminoglycans (GAGs), highly-sulfated unbranched polysaccharides present on the cell surface and within endocytic vesicles, have been implicated as first attachment sites for prions and cofactors for replication. GAG mimetics and obstruction of GAG sulfation affect prion replication, but so far, comparative analysis of the role of GAGs during the individual stages of infection by 22L prion strain has not been performed. We examined the effect of the GAG mimetic, DS-500, and the sulfation inhibitor, $NaClO_3$, on prion infection by scrapie strain 22L in L929 cells and organotypic cerebellar slices. Here we show that both compounds change the cellular distribution and levels of sulfated GAGs but have divergent effects on cell surface and total PrP^{C} levels in L929 cells. Chemical manipulation of GAGs did not prevent PrP^{Sc} uptake, arguing against their role as essential attachment sites. Importantly, GAG undersulfation and DS-500 effectively antagonized *de novo* and chronic 22L prion infection in L929 cells and organotypic cerebellar slices. We conclude that DS-500 and $NaClO_3$ affect events downstream of the initial PrP^{Sc} attachment and internalization.

P.17: High throughput detection of PrP^{Sc} from prion-infected cells without PK treatment: Cell-based ELISA for novel screening method for anti-prion compounds

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Screening of chemical libraries is one of the possible ways for identification of therapeutic compounds for prion diseases. Prion-infected cells are often used for analyzing the effect of compounds on PrP^{Sc} formation. Mostly, PrP^{Sc} is detected by anti-PrP antibodies after a removal of PrP^{C} by proteinase K (PK) treatment. However, PK-sensitive part of PrP^{Sc} (PrP^{Sc}-sen) that possesses higher infectivity and conversion activity than the PK-resistant PrP^{Sc} (PrP^{Sc}-res) is expected to be also digested by PK treatment. To overcome this problem, in