

University of Groningen

Neurogenerative diseases and the Protein quality control system

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Stellingen

1. While controlled aggregation of proteins is often suggested as being cytoprotective (Arrasate et al., 2004), aggregation within neuronal processes is toxic and detrimental to neuronal health (Gunawardena and Goldstein, 2005; Wooten et al., 2006; Seidel et al., 2010) meaning that aggregate prevention or clearance at the earliest possible state may be the preferred way to go in searches for therapy
2. Neurodegeneration in Polyglutamine diseases has 2 components: a general component that arises from a toxic gain-of-function protein aggregation pathology and that is cell- and tissue-type independent and a specific component that arises from the loss or gain of function of the disease-specific protein that determines tissue specificity of the disease (Helmlinger et al., 20006; Duncan et al., 2011, This thesis).
3. Neuronal death in polyQ diseases results not from a single cause, but from cumulative stress build up, encompassing blocking axonal transport, continuous pressure on the protein quality control system, transcriptional dysregulation and other sources (this thesis).
4. It is needless to state that a human disease can never be accurately replicated in an animal model and that studies in animal models therefore have to be carefully designed to answer specific questions (de Jong and Maina, 2010). At the same time, carefully designed studies in animal models are indispensable to develop and test new concepts of ongoing disease processes and possible treatments.
5. Post mortem analysis of human tissue is not only essential for the diagnosis and the initial description of diseases, but through careful analysis it can provide further insight into underlying disease processes.
6. The idea to include a (christian) creator god as a scientific theory as proposed by some schools is incompatible with the principles of science that deal with the analysis of the measurable world. Since a godly intervention is not measurable, creationism thus has no place in the biological sciences at all (Greener, 2007).
7. Since Europe is running out of natural resources, knowledge becomes our primary asset: it is therefore of utmost importance to provide free education for everyone.
8. The Schengen area not only facilitates travel and commerce but also scientific exchange, while the drawbacks are often overdramatized and in reality, marginal (Studie über den erweiterten Schengenraum, Bundeskriminalamt, 2009).
9. The results of many studies, which were financed by public grants, are published in scientific journals, which are often prohibitively expensive and not available to the general public. Yet, the same public already paid for this research, and is entitled to its results. Thus, results from publically funded research should be available to everyone, for free.
10. Germans have the tendency to write overly long, verbose and contrived sentences in an attempt to articulate all their thoughts and opinions on a given subject, without breaking up the structure of the sentence or dividing the subject into different sentences, instead resorting to subordinate clauses and complex wording, often erring on the wrong side of both readability and information density (this thesis).

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