

Propositions

accompanying the dissertation

“Synaptic effects of mutations in neuronal Ca_v2.1 calcium channels”

by
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1. Reduction of pre-synaptic calcium influx through (mutated) Ca_v2.1 channels is not sufficient for compensatory contribution by other types of calcium channels to release of acetylcholine at the mouse neuromuscular junction (this thesis).
2. The Familial Hemiplegic Migraine type 1 mutations R192Q and S218L in Ca_v2.1 calcium channels increase the release of acetylcholine at the mouse neuromuscular junction (this thesis).
3. Spontaneous, uniquantal acetylcholine release at the mouse neuromuscular junction is partly Ca_v2.1 channel-dependent (Plomp et al. *Brain* 2000; 123:463-471; Giovannini et al. *Br. J. Pharmacol.* 2002; 136:1135-1145; this thesis).
4. Acetazolamide, gabapentin and topiramate do not exert direct effects on the function of pre-synaptic Ca_v2.1 channels (this thesis).
5. The accessory calcium channel subunits $\alpha_2\delta$ -2, β_4 and γ_2 are functionally redundant at the mouse neuromuscular junction. They are likely of lesser importance in modulating synaptic function of Ca_v2.1- α_1 channels *in vivo* than previously assumed on the basis of heterologous expression studies (this thesis).
6. R-type calcium currents are mediated by *Cacna1e*-encoded Ca_v2.3 channels and at least one other, yet unidentified type of channel (Wilson et al. *J. Neurosci.* 2000; 23:8566-8571).
7. The high density of Ca_v2.1 on Purkinje cell dendrites could result in the generation of random calcium spikes. This is prevented by the selective dendritic expression of K_v1.2 subunit-containing potassium channels (Khavandgar et al. *J. Physiol.* 2005; 569:545-557).

8. Mutations in $\text{Ca}_v2.1\text{-}\alpha_1$ or accessory subunits cause membrane excitability in thalamic neurons and susceptibility to epilepsy by indirectly potentiating low voltage-activated Ca_v3 channel-mediated calcium currents (Zhang et al. *J Neurosci.* 2002; 22:6362-6371).
9. An aberrant γ -aminobutyric acid type-A receptor complement in cerebellar granule cells contributes to the ataxic phenotype of *tottering* mutant mice (Kaja et al. *Br. Neurosci. Assoc. Abstr.* 2003; 58.03).
10. Contrary to popular opinion, bureaucratisation rather than ageing is the primary driving force behind the rise of public health care expenditures per capita (Albrecht et al. *Working Papers of Faculty of Economics and Business Administration, Ghent University, Belgium* 2005-335).
11. "Community gardens are mediums through which democratic values are practiced and reproduced". Therefore, post-war development projects aimed at stimulating the democratisation process should dramatically increase their investments in grassroots associations (Glover et al. *Leisure Sciences* 2005; 27-75-92).
12. Preventive sealing and removal of letter boxes in the Netherlands as a measure to prevent vandalism on New Year's Eve are counterproductive, as it actually doubled the number of incidences (contrary to Royal TPG Post Press Releases from 24 January 2005 and 27 January 2006).