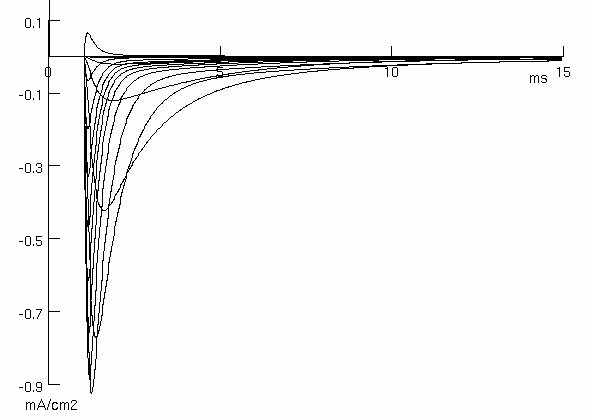
**Sodium channels**

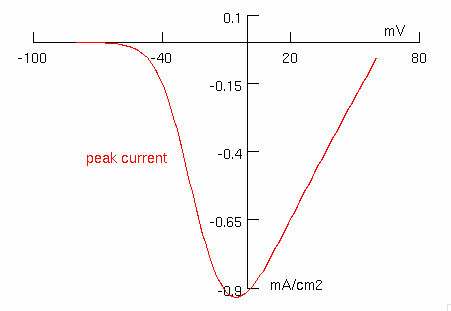
**Nav1.1**

Simulation data

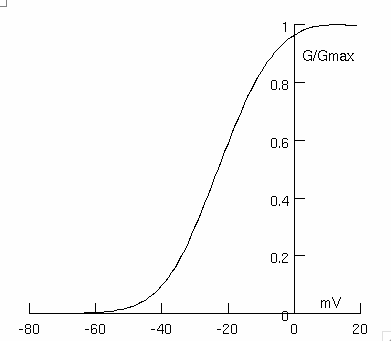
Voltage-clamp: -80 mV to 70 mV in step of 10 mV (for experimental data see Rhodes et al, 2004; Fig 1A. Simulation data for wild-type variant, WT-SCN1A)



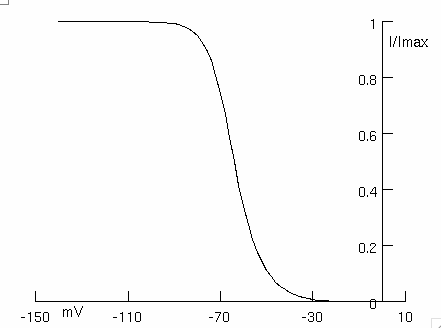
Voltage-current relationship (see Rhodes et al, 2004; Fig 3A)



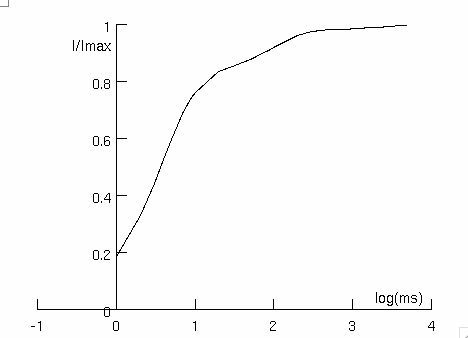
Voltage dependence of the normalised conductance (see Rhodes et al, 2004; Fig 3B)



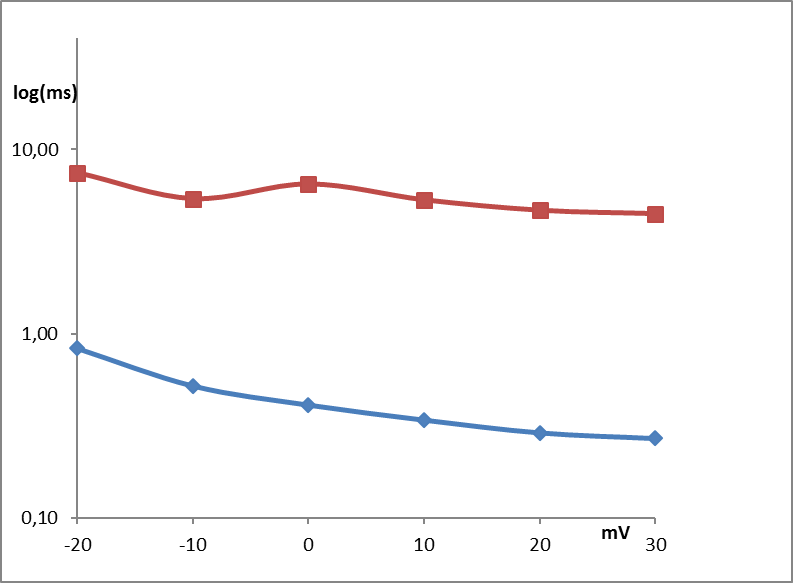
Voltage dependence of normalized current during fast inactivation (see Rhodes et al, 2004; Fig 3C)



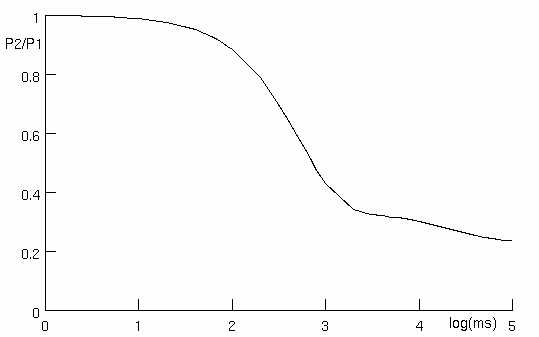
Recovery from fast inactivation (see Rhodes et al, 2004; Fig 3D)



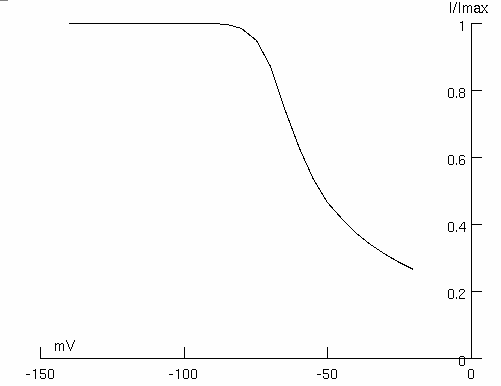
Time constants of inactivation (see Rhodes et al, 2004; Fig 2B)



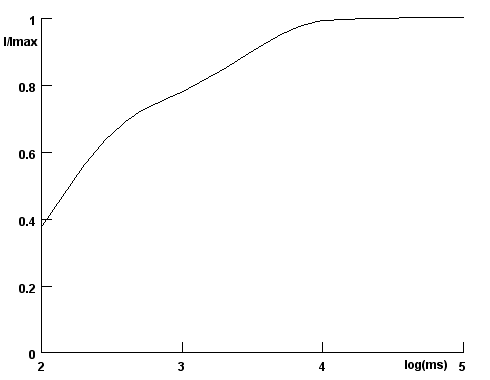
Onset of slow inactivation (see Rhodes et al, 2004; Fig 5A)



Steady-state slow inactivation (see Rhodes et al, 2004; Fig 5B)



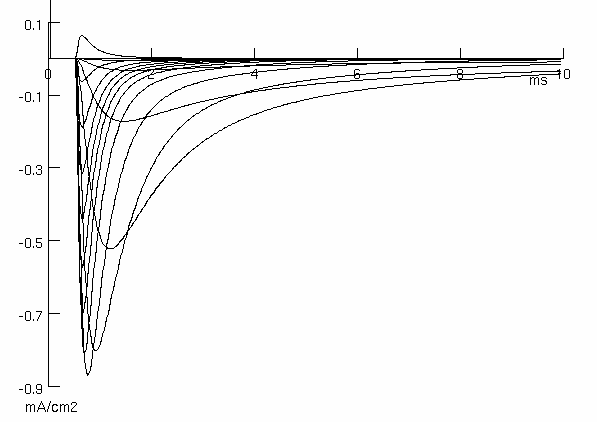
Slow inactivation recovery (see Rhodes et al, 2004; Fig 5C)



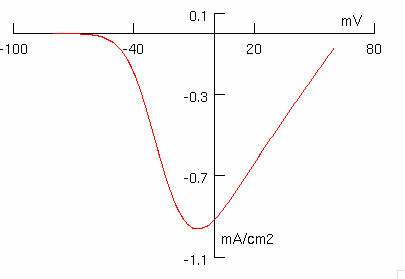
**Nav1.2**

Simulation data

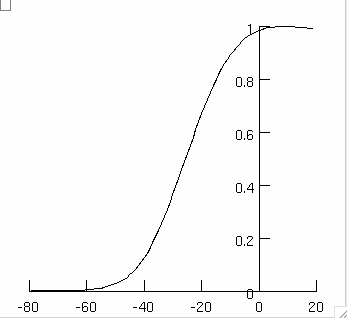
Voltage-clamp: -80 mV to 70 mV in step of 10 mV (see Misra et al, 2008; Fig 1B. Simulation data for wild-type variant, WT-SCN2A)

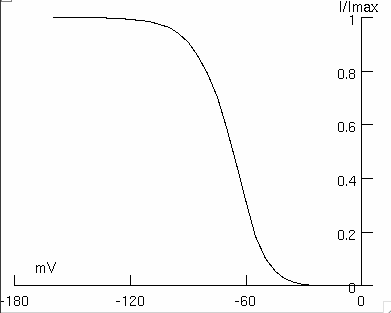


Voltage-current relationship (see Misra et al, 2008; Fig 2A)

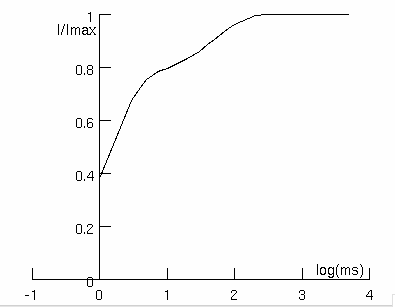


Voltage dependence of the normalised conductance (see Misra et al, 2008; Fig 2B)

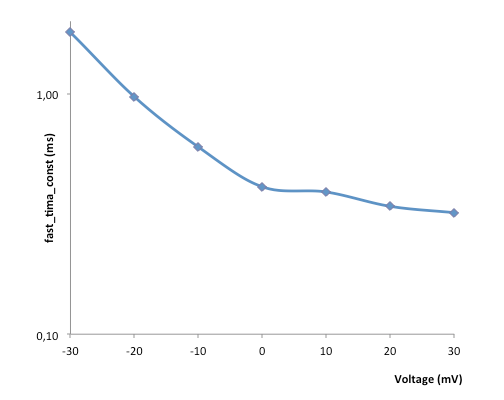


Voltage dependence of normalized current after steady-state fast inactivation (see Misra et al, 2008; Fig 2C)

Recovery from fast inactivation (see Misra et al, 2008; Fig 3D)



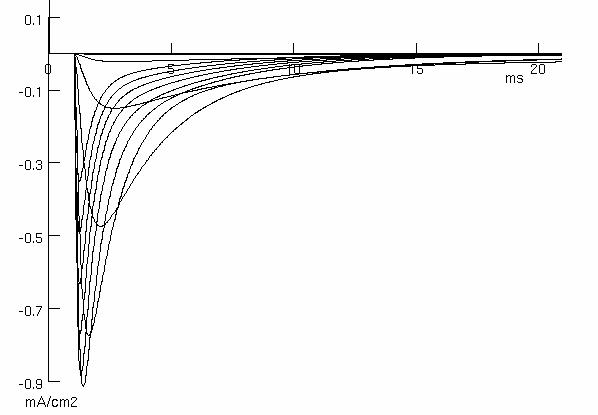
Time constants of inactivation (see Misra et al, 2008; Fig 3A)



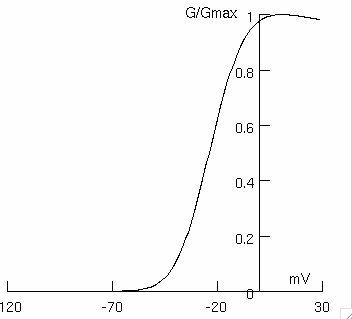
**Nav1.3**

Simulation data

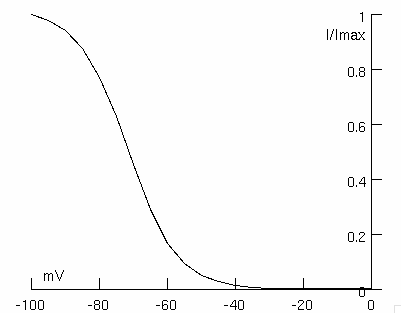
Voltage-clamp: -90 mV to +40 mV in step of 10 mV (see Cusdin et al, 2010; Fig 1A: Simulation data for NaV1.3/no β3)



Voltage dependence of the normalised conductance (see Cusdin et al, 2010; Fig 1B)



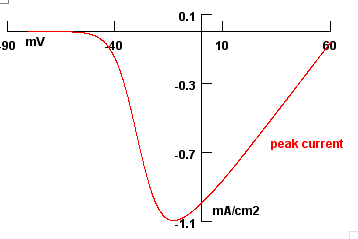
Voltage dependence of normalized current after steady-state fast inactivation (see Cusdin et al, 2010; Fig 2B)



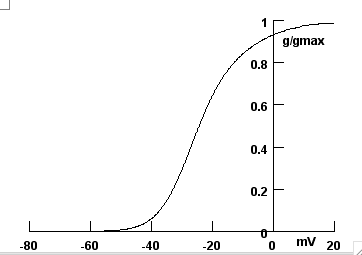
**Nav1.4**

Simulation data

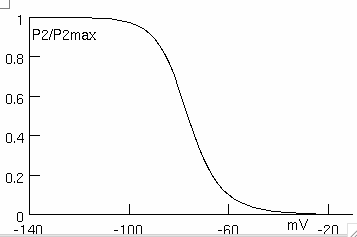
Voltage-current relationship (see Arnold et al, 2015; Fig 4A. Simulation data for wild-type variant)



Voltage dependence of the normalised conductance (see Arnold et al, 2015; Fig 4B)



Steady-state availability during fast inactivation (see Arnold et al, 2015; Fig 4C)



Recovery from fast inactivation (see Arnold et al, 2015; Fig 4D)

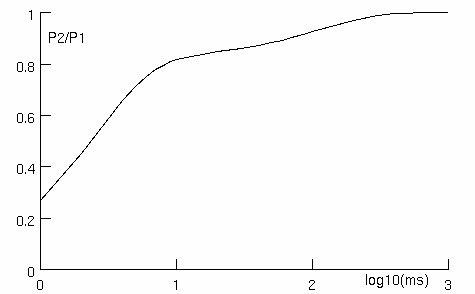
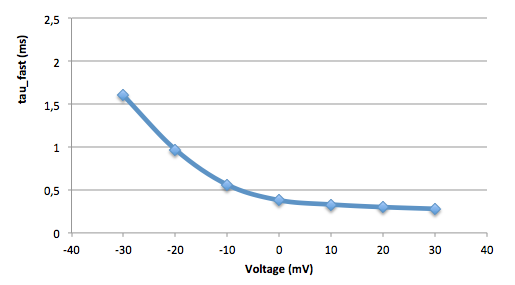
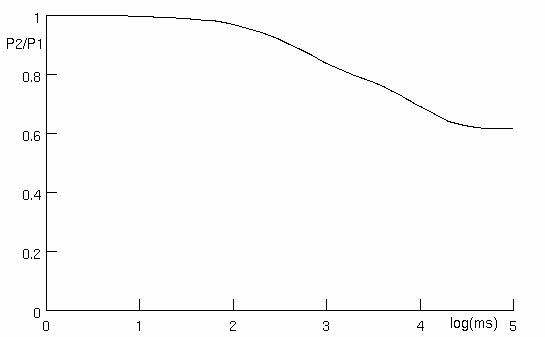


Fig 4E

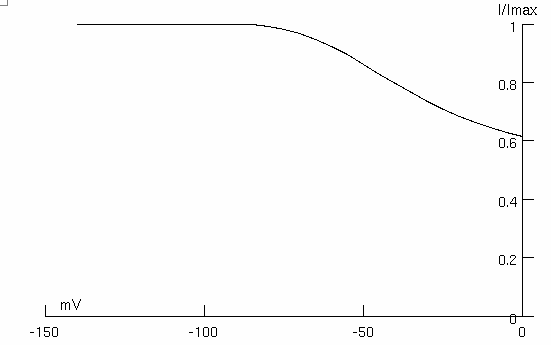
Time constant of inactivation (see Arnold et al, 2015; Fig 4E)

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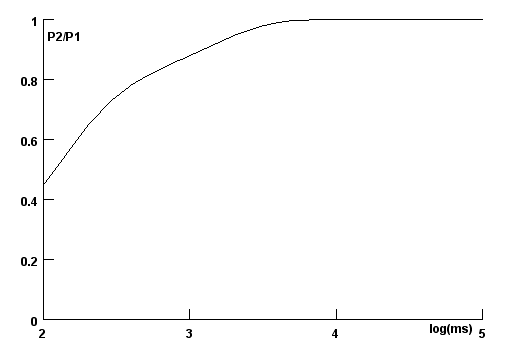
Onset of slow inactivation (see Arnold et al, 2015; Fig 6A)

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Steady-state slow inactivation (see Arnold et al, 2015; Fig 6B)



Slow inactivation recovery (see Arnold et al, 2015; Fig 6C)



**Nav1.5**

Simulation data

Voltage-clamp: -90 mV to 60 mV in steps of 5 mV (see Zhang et al, 2013; Fig 1A)

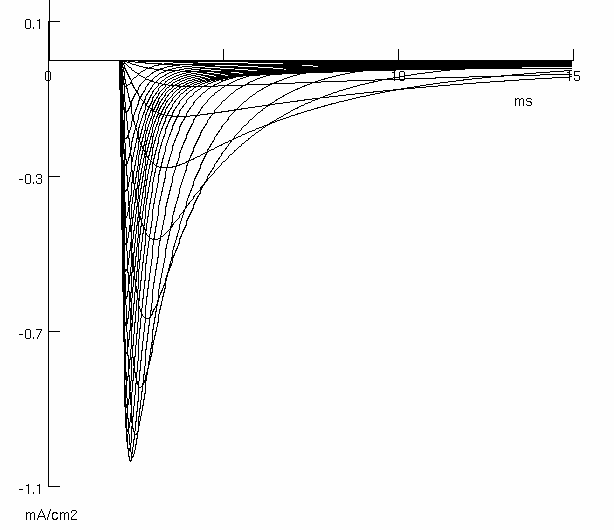
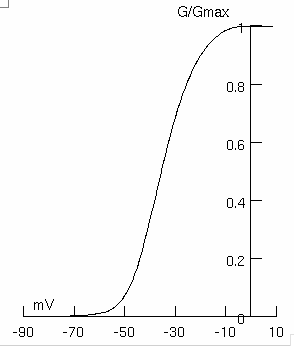
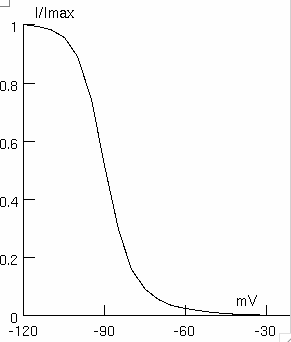
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Fig 1D

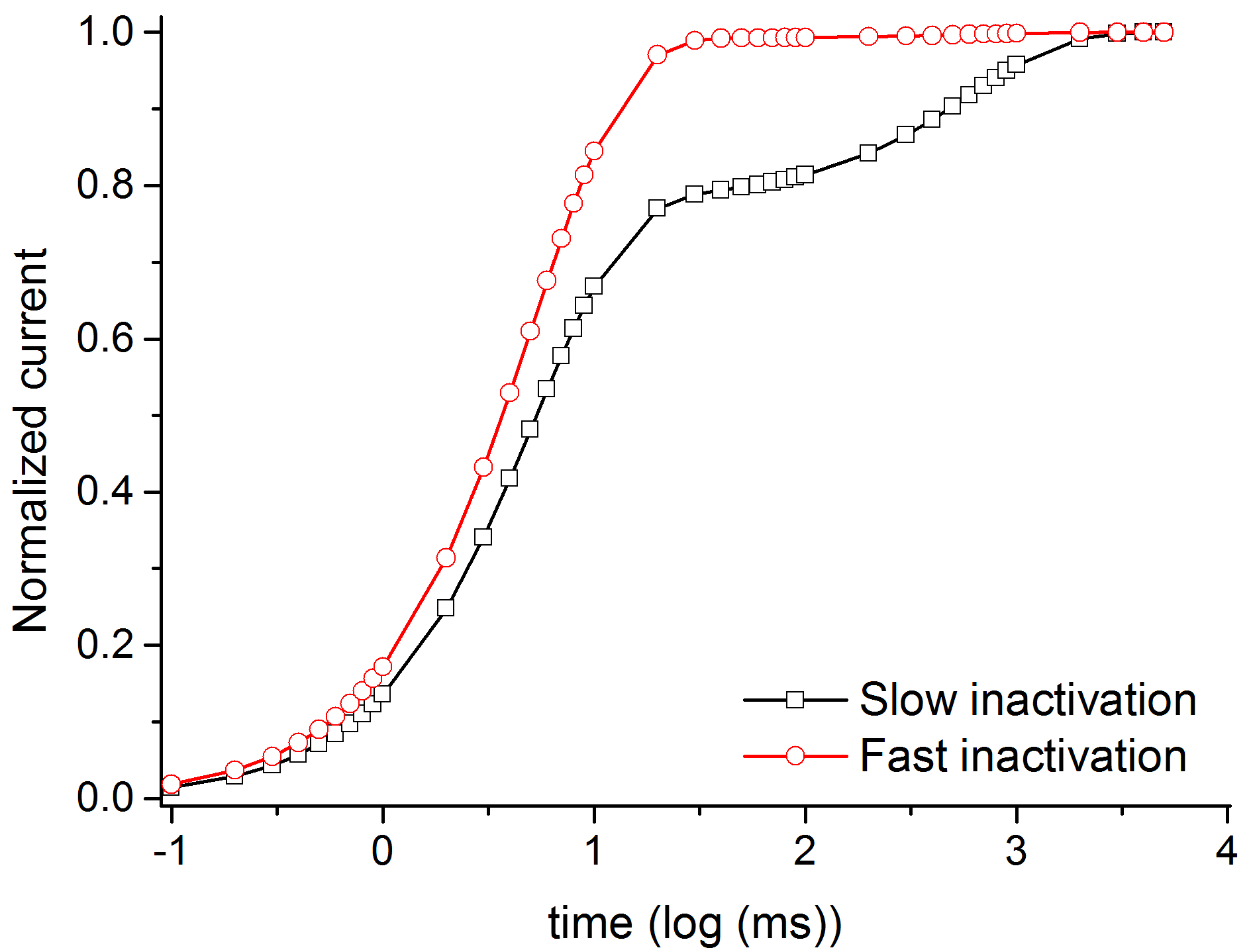
Voltage dependence of the normalised conductance(see Zhang et al, 2013; Fig 1D)



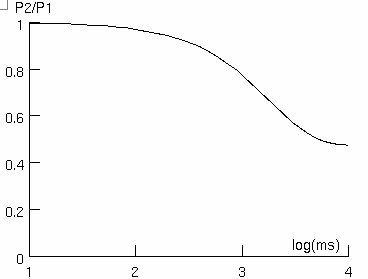
Steady-state availability during fast inactivation (see Zhang et al, 2013; Fig 1E)



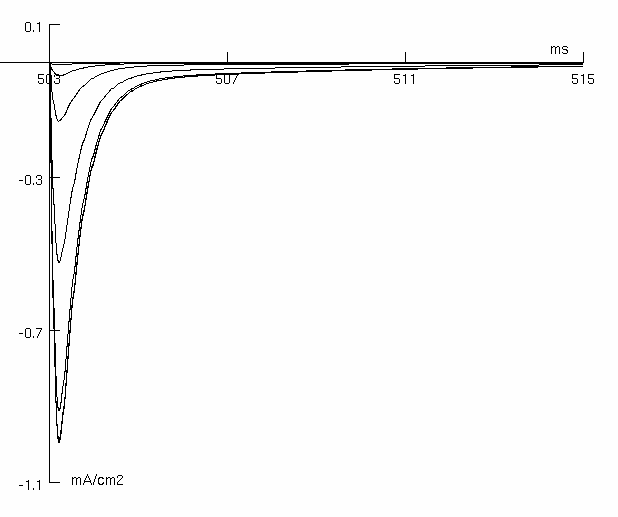
Recovery from fast and slow inactivation (see Zhang et al, 2013; Fig 2D)



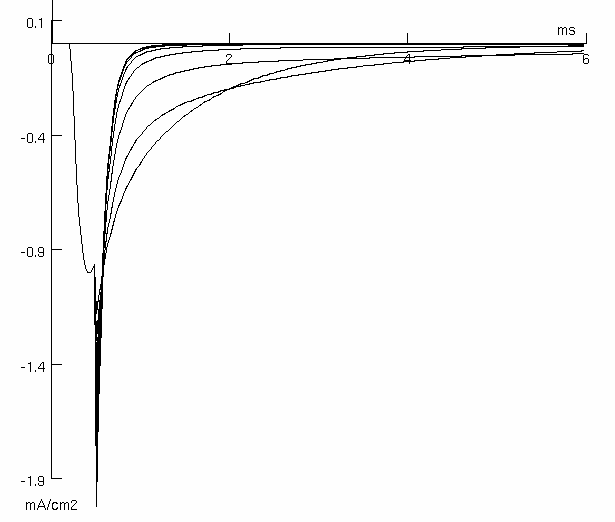
Development of slow inactivation (see Zhang et al, 2013; Fig 2F)



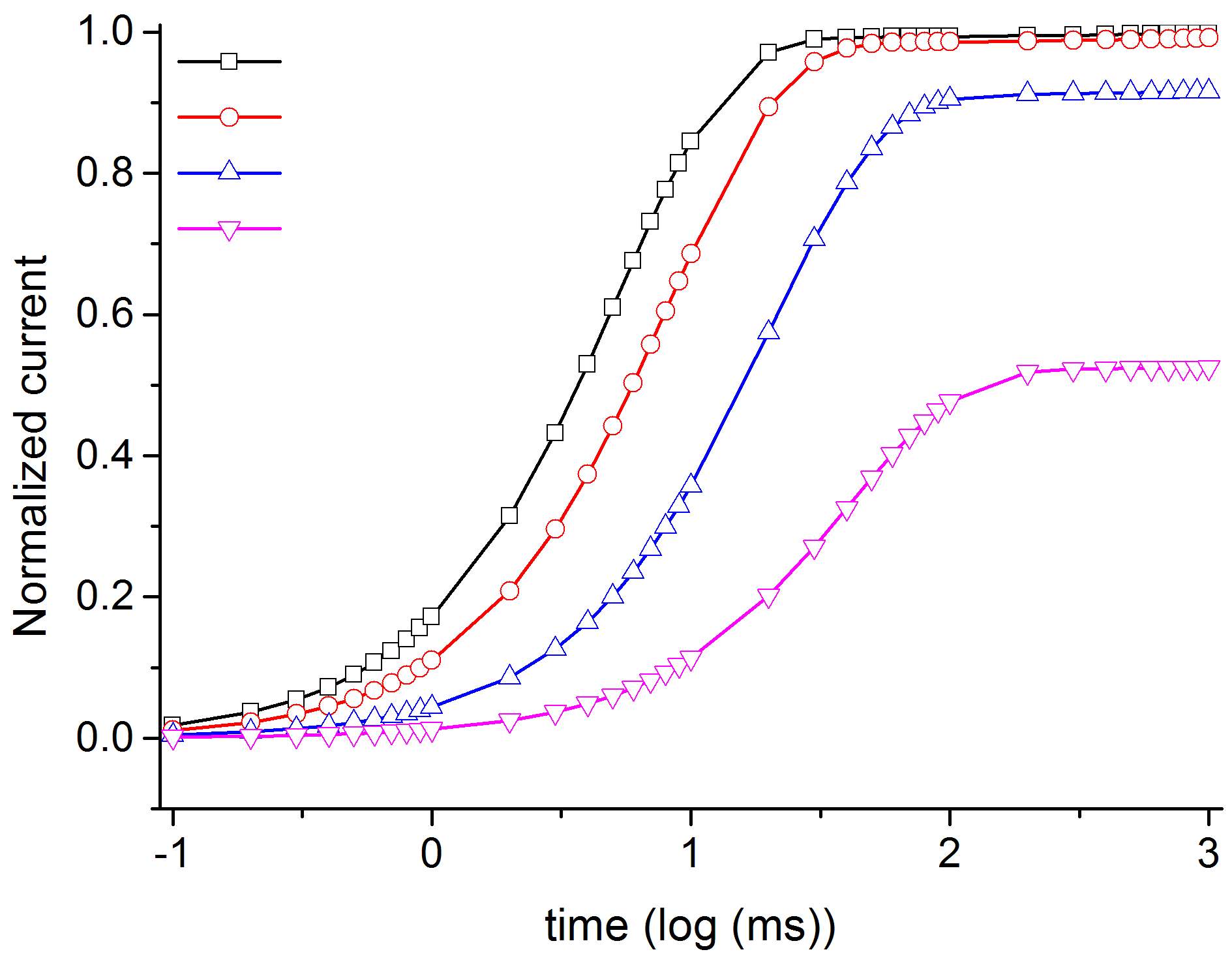
Availability curves (see Zhang et al, 2013; Fig 1B)



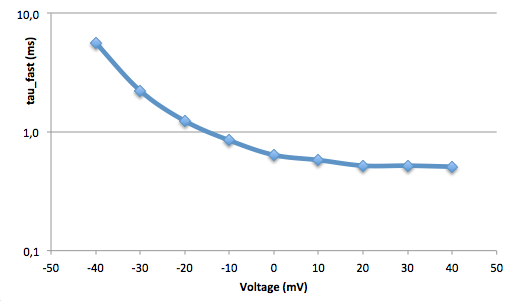
Deactivation curves (see Zhang et al, 2013; Fig 1C)



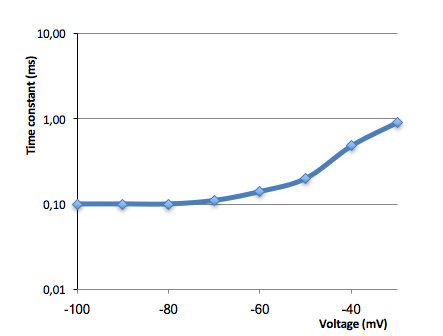
Fractional recovery of fast inactivation (repolarization voltages: -120, -110, -100, -90 mV) (see Zhang et al, 2013; Fig 2A)



Inactivation time constant dependence from voltage (see Zhang et al, 2013; Fig 4E)



Deactivation time constant dependence from voltage (see Zhang et al, 2013; Fig 4F)



**Nav1.6**

Simulation data

Voltage-clamp: -70 mV to 70 mV in step of 10 mV (see Burbidge et al, 2002; Fig 2A)

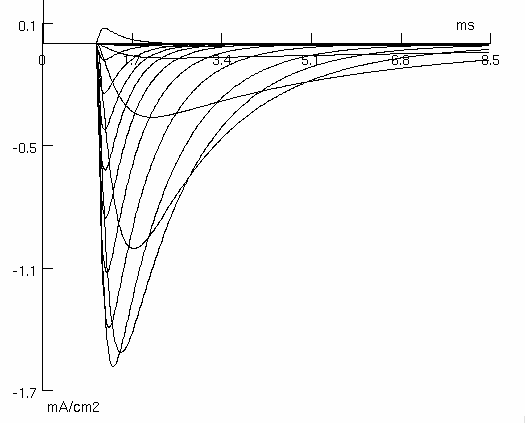
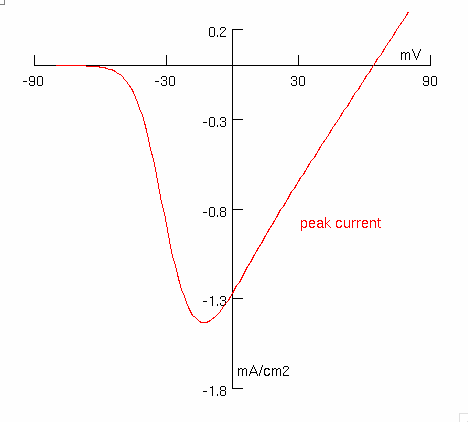
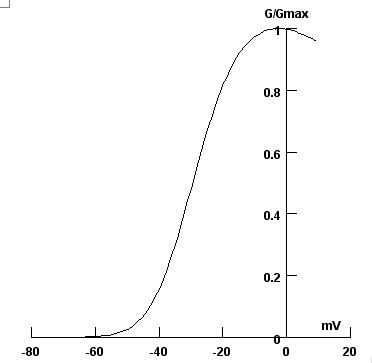


Fig 2C

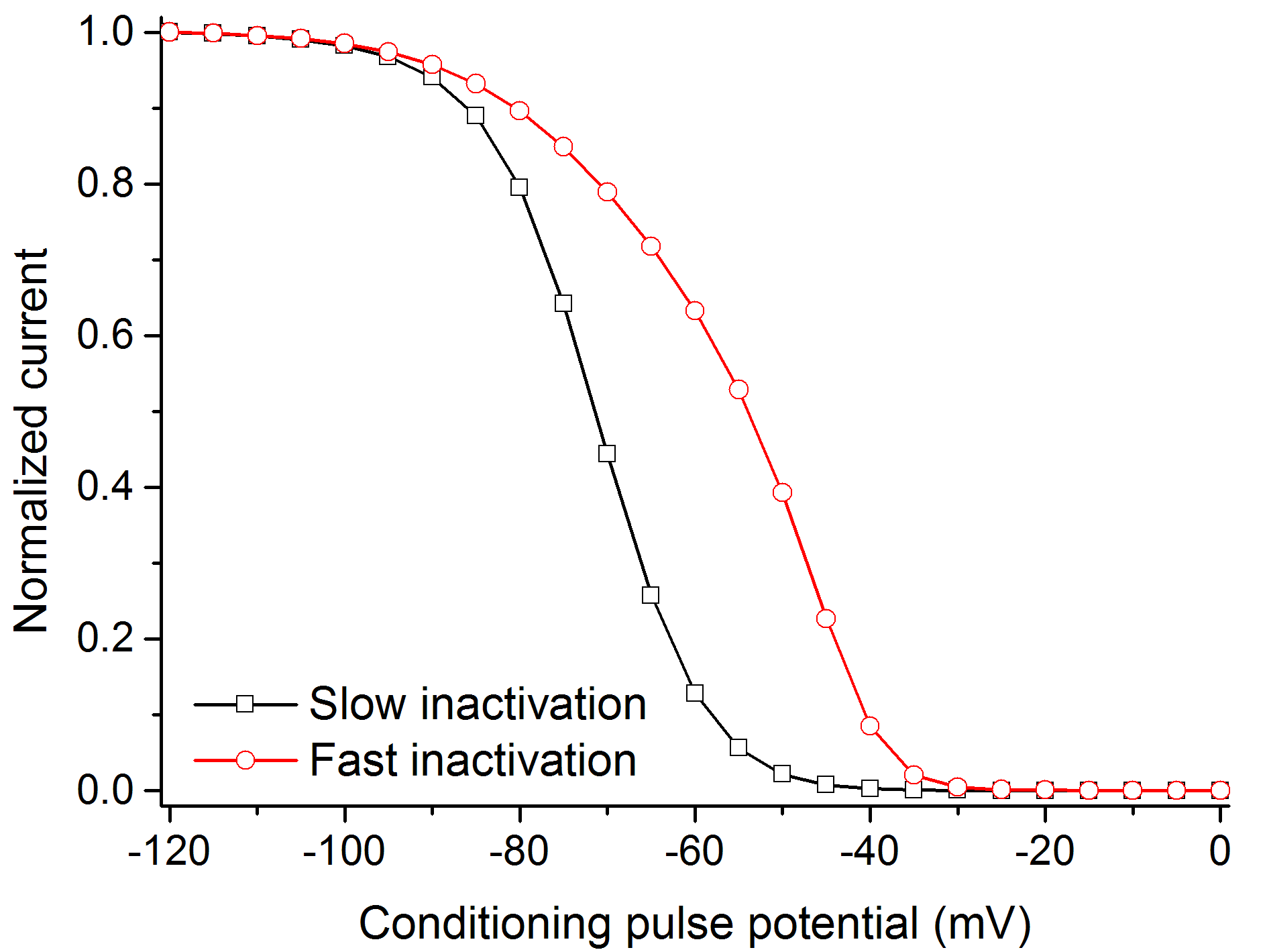
Voltage-current relationship (see Burbidge et al, 2002; Fig 2C)



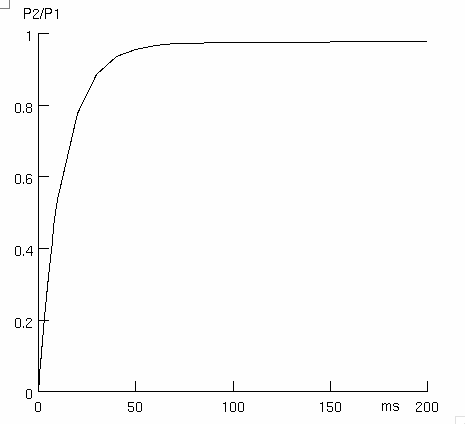
Voltage dependence of the normalised conductance (see Burbidge et al, 2002; Fig 2D)



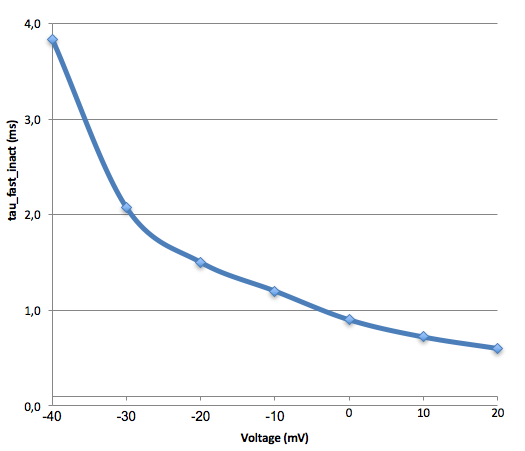
Voltage dependence of normalized current during both slow and fast inactivation (see Burbidge et al, 2002; Fig 3B)



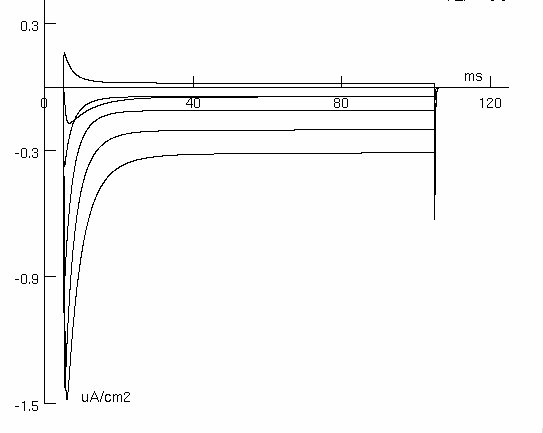
Recovery from inactivation (see Burbidge et al, 2002; Fig 3D)



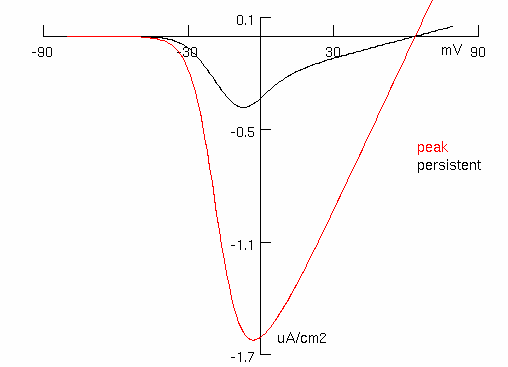
Time constant of inactivation (see Burbidge et al, 2002; Fig 3C)



I-V curves with persistent current (see Burbidge et al, 2002; Fig 4A)



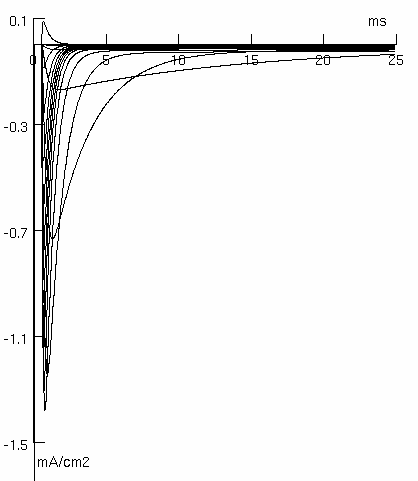
I-V relationship (see Burbidge et al, 2002; Fig 4C)



**Nav1.7**

Simulation data

Voltage-clamp: -80 mV to 70 mV in step of 10 mV (see Chatelier et al, 2008; Fig 1C. Simulation data for 5N11S variant))



Voltage dependence of the normalised conductance (see Chatelier et al, 2008; Fig 2B)

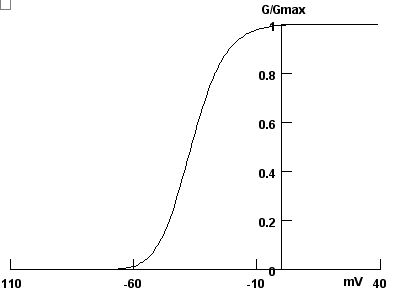
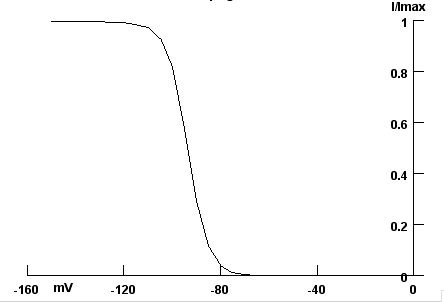
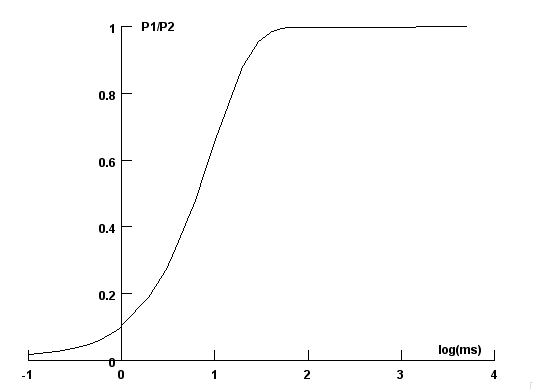


Fig. 2C

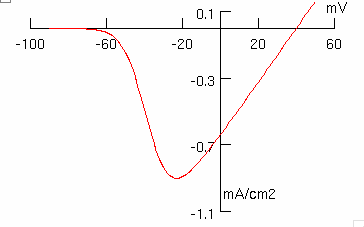
Voltage dependence of normalized current during fast inactivation (see Chatelier et al, 2008; Fig 2C)



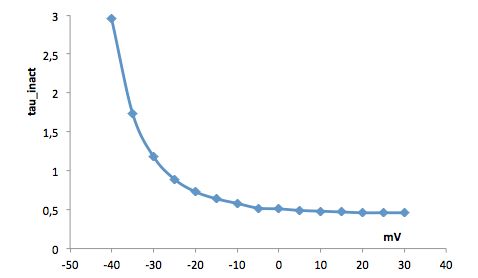
Recovery from inactivation (see Chatelier et al, 2008; Fig 4A)



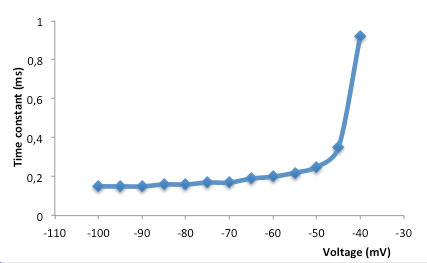
I-V relationship (see Chatelier et al, 2008; Fig 2A)



Time constant of inactivation (see Chatelier et al, 2008; Fig 3A)



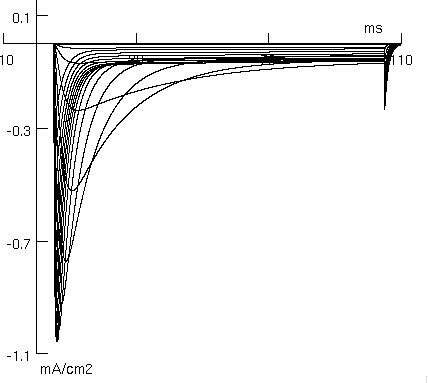
Time constant of deactivation (see Chatelier et al, 2008; Fig 3B)



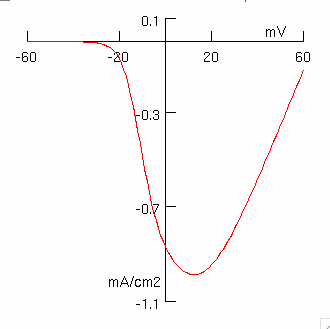
**Nav1.8**

Simulation data

Voltage-clamp: -80 mV to 55 mV in step of 5 mV (see Huang et al, 2013; Fig 1A)

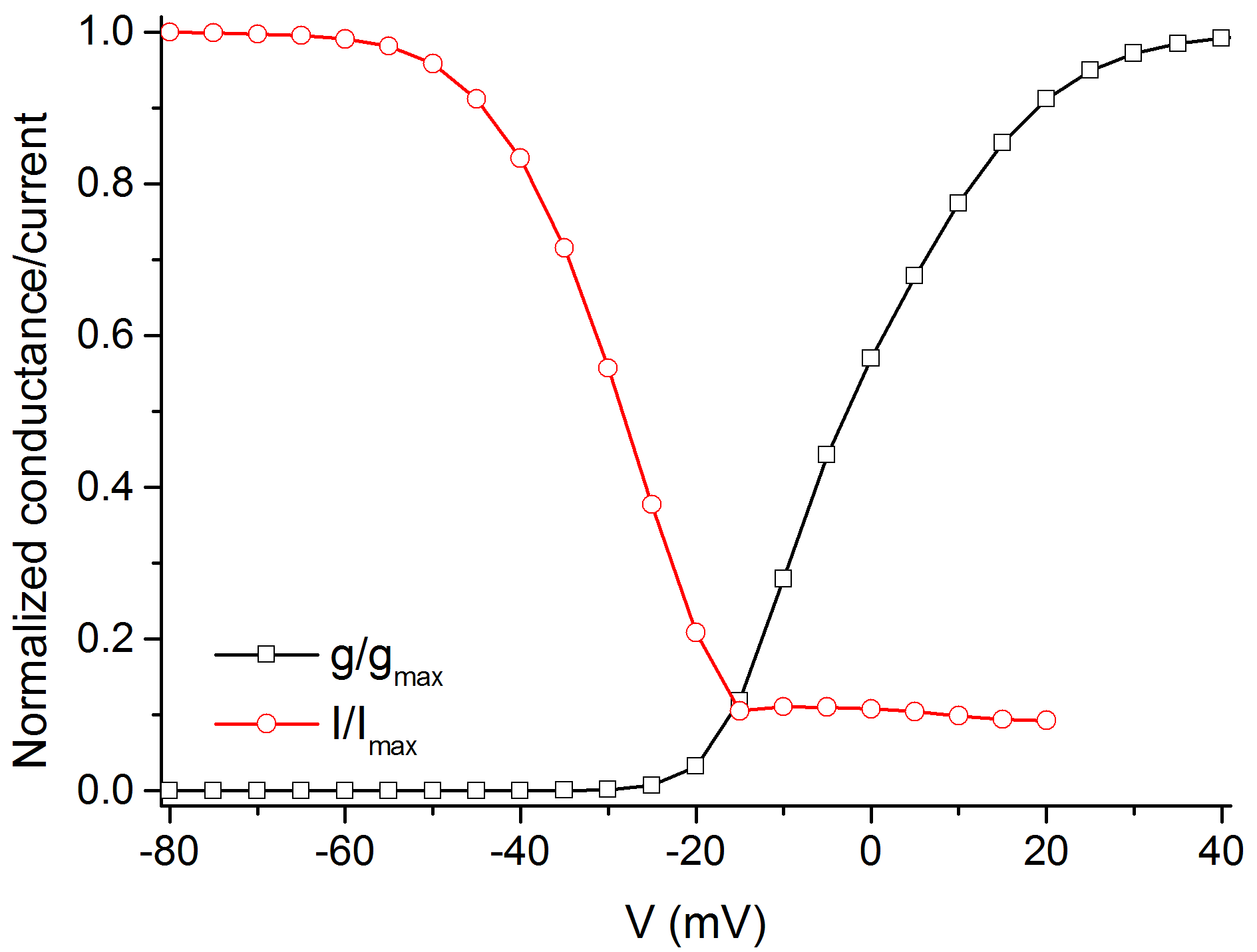


I-V relationship (see Huang et al, 2013; Fig 1C)

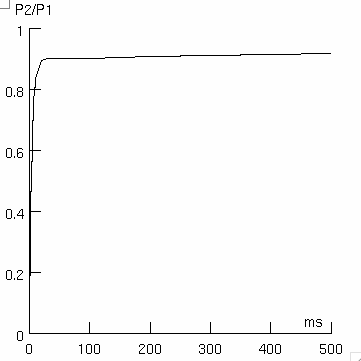


Voltage dependence of the normalised conductance and of the normalized current during inactivation

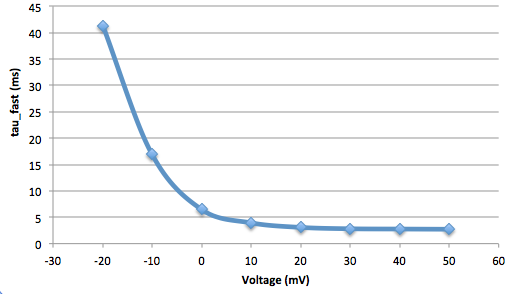
(see Huang et al, 2013; Fig 1D)



Recovery from inactivation (see Huang et al, 2013; Fig 3A)



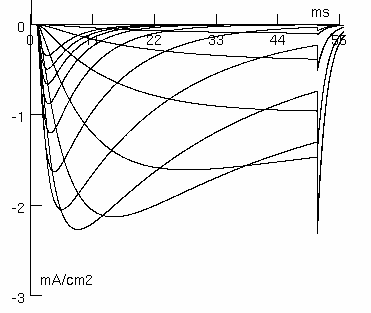
Inactivation time constant dependence from voltage (see Huang et al, 2013; Fig 2F)



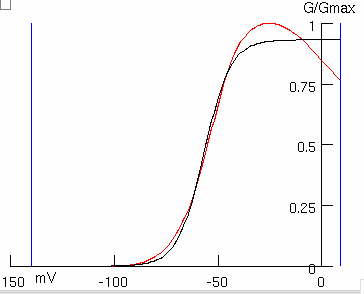
**Nav1.9**

Simulated data

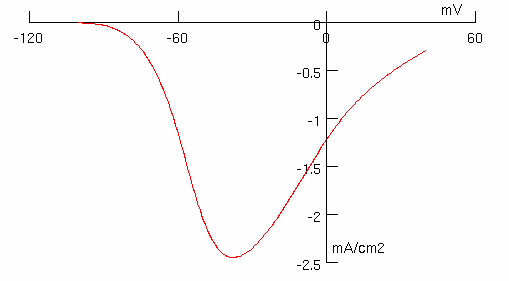
Voltage-clamp: -70 mV to 50 mV in step of 10 mV (see Vanoye et al, 2013; Fig 1A)



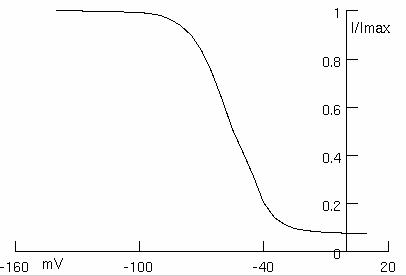
Normalized conductance-voltage relationship (see Vanoye et al, 2013; Fig 2F)



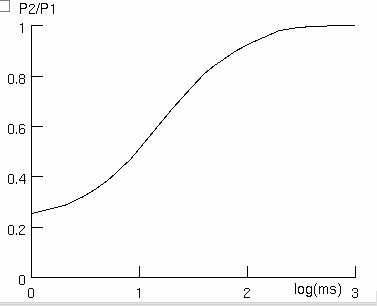
Voltage-current relationship (see Vanoye et al, 2013; Fig 1B)



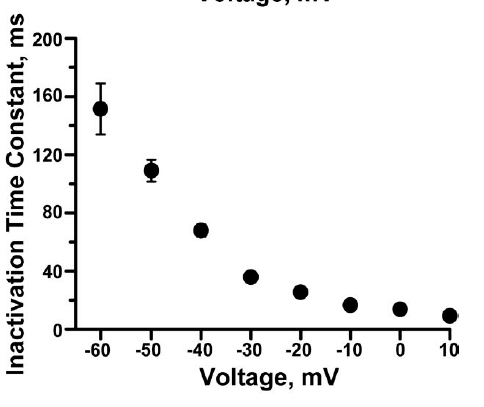
Voltage dependence of normalized current during inactivation (see Vanoye et al, 2013; Fig 2E)

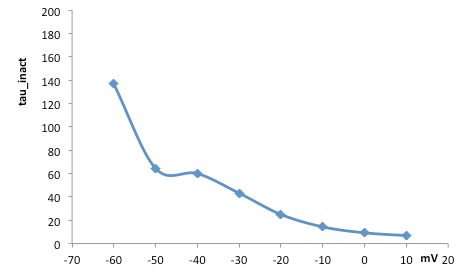


Recovery from inactivation (see Vanoye et al, 2013; Fig 2F)



Inactivation time constant dependence from voltage (see Vanoye et al, 2013; Fig 2F)



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