

MOLECULAR STRUCTURE OF CATION CHANNELS

OBJECTIVES

1. Na⁺ channel (Na_v1.4)
 - Potassium aggravated myotonia
 - Paramyotonia congenita
 - Hyperkalemia periodic paralysis
 - Hypokalemic periodic paralysis
2. Ca²⁺ channel (Ca_v1.1)
 - Hypokalemic periodic paralysis

REVIEW

S. C. Cannon. 2006. Pathomechanisms in channelopathies of skeletal muscle and brain. *Annu. Rev. Neurosci.* 29:387-415.

REFERENCES

1. Hayward et al. 1996. Inactivation defects caused by myotonia-associated mutations in the sodium channel III-IV linker. *J.Gen.Physiol.* 107:559-576.
2. Hayward et al. 1999. Defective slow inactivation of sodium channels contribute to familial periodic paralysis. *Neurology* 52:1447-1453.
3. Hayward et al. 2008. Targeted mutation of mouse NaV1.4 muscle sodium channel produces myotonia and potassium-sensitive weakness. *J.Clin.Invest.* (in press).