

7 LITERATURVERZEICHNIS

Balkema GW. 1991. A synaptic antigen (B16) is localized in retinal synaptic ribbons. *J Comp Neurol* 312 : 573-583.

Baumann A, Ackermann A, and Pongs O. 1988. Structure of the voltage-dependent potassium channel is highly conserved from *Drosophila* to vertebrate central nervous systems. *EMBO J.*, 7, 2457–2463.

Biervert C, Schroeder BC, Kubisch C, Berkovic SF, Propping P, Jentsch TJ, Steinlein OK. 1998. A potassium channel mutation in neonatal human epilepsy. *Science* 279: 403-406.

Brücke EW. 1843. Beiträge zur Lehre von der Diffusion tropfbar flüssiger Körper durch poröse Scheidewände. *Annalen der Physik und Chemie* 53: 77-94.

Burke NA, Takimoto K, Li D, Han W, Watkins SC, Levitan ES. 1999. Distinct structural requirements for clustering and immobilization of K⁺ channels by PSD-95. *J Gen Physiol* 113: 71-80.

Carter-Dawson LD, LaVail M .1979. Rods and Cones in the Mouse Retina: structural analysis using light and electron microscopy. *J. Comp.Neurol.*1979. 188;245-262.

Chandy KG and Gutman GA. 1995. *CRC Handbook of Receptors and Channels*. CRC Press, Boca Raton, FL. 1–75.

Charlier C, Singh NA, Ryan SG, Lewis TB, Reus BE, Leach RJ, Leppert M. 1998. A pore mutation in a novel KQT-like potassium channel gene in an idiopathic epilepsy family. *Nat Genet* 18: 53-55.

Cho KO, Hunt CA and Kennedy MB .1992. The rat brain postsynaptic density fraction contains a homolog of the *Drosophila* discs-large tumor suppressor protein. *Neuron*, 9, 929–942.

Christie MJ, North RA, Osborne PB, Douglass J, Adelman JP .1990. Heteropolymeric potassium channels expressed in *Xenopus* oocytes from cloned subunits. *Neuron* 2:405-411.

Cooper EC, Milroy A, Jan YN, Jan LY, Lowenstein DH. 1998. Presynaptic localization of Kv1.4-containing A-type potassium channels near excitatory synapses in the hippocampus. *J Neurosci* 18(3): 965-974.

Covarrubias M, Wie A, Salkoff L .1991. Shaker, Shal, Shab and Shaw express independent K⁺ current systems. *Neuron* 7:763-773.

Dhingra NK, Ramamohan Y, Raju TR. 1997. Developmental expression of synaptophysin, synapsin I and syntaxin in the rat retina. *Brain Res Dev Brain Res.* 102(2):267-73.

Drenckhahn D, Benninghoff A. 2004. Anatomie, Makroskopische Anatomie, Histologie, Embryologie, Zellbiologie Band 2, 16. Auflage, Elsevier GmbH Urban & Fischer

Feller MB, Wellis DP, Stellwagen D, Werblin FS, Shatz CJ. 1996. Requirement for cholinergic synaptic transmission in the propagation of spontaneous retinal waves. *Science*. 272(5265):1182-7.

Firth SI, Wang CT, Feller MB. 2005. Retinal waves: mechanisms and function in visual system development. *Cell Calcium*. 37(5):425-32.

Fujita A, Kurachi Y. 2000. SAP Family Proteins. *Biochem Biophys Res Comm* 269 :1-6.

Galli L, Maffei L. 1988. Spontaneous impulse activity of rat retinal ganglion cells in prenatal life. *Science*. 242(4875):90-1.

Grosse G, Draguhn A, Höhne L, Tapp R, Veh RW, Ahnert-Hilger G. 2000. Expression of Kv1 potassium channels in mouse hippocampal primary cultures: development and activity-dependent regulation. *J. Neurosci* 20(5): 1869-1882.

Guy HR. 1990. Models of voltage- and transmitter-activated channels based on their amino acid sequences. In Pasternak, C. A. (Ed.): *Monovalent Cations in Biological Systems*. Boca Raton, CRC, pp. 31-58.

Guy HR und Conti F. 1990. Pursuing the structure and function of voltage-gated channels. *Trends Neurosci*. 3: 201-206.

Hartmann HA, Kirsch GE, Drewe JA, Tagliatela M, Joho RH, Brown AM. 1991. Exchange of conduction pathways between two related K⁺ channels. *Science*. 22;251(4996):942–944.

Hayden SA, Mills JW, Masland RM. 1980 . Acetylcholine synthesis by displaced amacrine cells. *Science* 210(4468):435-7.

Heginbotham L, Lu Z, Abramson T, MacKinnon R. 1994. Mutations in the K⁺ channel signature sequence. *Biophys J*. 66(4):1061–1067.

Heinemann SH, Rettig J, Graack HR, und Pongs O. 1996. Functional characterization of Kv channel beta-subunits from rat brain. *J. Physiol*. 493:625–633.

Hille B .1992. *Ion channels of excitable membranes*, Ed 2. Sunderland MA: Sinauer
Hodgkin AL, Huxley AF .1952. A Quantitative Description of Membrane Current and its Application to Conduction and Excitation in Nerve, *Journal of Physiology*, 117, 500-544.

Hodgkin, A. L. and Huxley, A. F. 1952. A Quantitative Description of Membrane Current and its Application to Conduction and Excitation in Nerve. *Journal of Physiology* 117: 500-544.

Höltje M, Brunk I, Große J, Beyer E, Veh RW, Bergmann M, Große G and Ahnert-Hilger G. 2006. Differential distribution of voltage-gated potassium channels Kv1.1-Kv1.6 in rat retina during development. Eingereicht Juli 2006. J. Neurosci. Res.

Horio Y, Hibino H, Inanobe A, Yamada M, Ishii M, Tada Y, Satoh E, Hata Y, Takai Y, Kurachi Y. 1997. Clustering and Enhanced Activity of an Inwardly Rectifying Potassium Channel Kir 4.1, by an Anchoring Protein PSD-95/SAP90. JBC 272(20): 12855-12888.

Huberman AD, Stellwagen D, Chapman B. 2002. Decoupling eye-specific segregation from lamination in the lateral geniculate nucleus. J Neurosci. 1;22(21):9419-29.

Isacoff EY, Jan YN, Jan LY .1990. Evidence for the formation of heteromultimeric potassium channels in *Xenopus* oocytes. Nature 345:530-534.

Jan LY, Jan YN . 1992. Tracing the roots of ion channels. Cell 69: 715-718.

Jan LY, Jan YN .1997. Cloned potassium channels from eukaryotes and prokaryotes. Annu. Rev. Neurosci. 20, 91-123.

Jindrová H. 1998. Vertebrate Phototransduction: Activation, Recovery and Adaption. Physiol Res 47: 155-168.

Jöns T, Heim HK, Kistner U, Ahnert-Hilger G.1999.SAP97 is a potential candidate for basolateral fixation of ezrin in parietal cells. Histochem Cell Biology Apr;111(4):313-8.

Juiz JM, Lujan R, Del Toro ED, Fuentes V, Ballesta JJ, Criado M. 2000. Subcellular compartmentalization of a potassium channel (Kv 1.4): preferential distribution in dendrites and dendritic spines of neurons in the dorsal cochlear nucleus. Eur J Neurosci 12: 4345-4356.

Katz, B. 1949. Les constants électriques de la membrane du muscle. Arch. Sci. Physiol. (Paris). 3:285–299.

Kim CG, Park D and Rhee SG.1996. The role of carboxyl-terminal basic amino acids in G α -dependent activation, particulate association, and nuclear localization of phospholipase C- β 1. J Biol Chem, 271, 21187–21192.

Kim E, Sheng M.1996. Differential K⁺ channel clustering activity of PSD-95 and SAP97, two related membrane-associated putative guanylate kinases. Neuropharm 35: 993-1000.

Kistner U, Wenzel BM, Veh RW, Cases-Lanhoff C, Garner AM, Apeltauer U, Voss B, Gundelfinger ED, Garner CC. 1993. SAP90, a rat presynaptic protein, related to the product of the *Drosophila* tumor suppressor gene *dlg-A*. J. Biol. Chem. 268, 4580-4583.

Klumpp DJ, Song EJ, Ito S, Sheng MH, Jan LY, Pinto LH. 1995. The shaker-like potassium channels of the mouse rod bipolar cell and their contributions to the membrane current. J Neurosci 15: 5004-5013.

- Klumpp DJ, Song EJ, Pinto LH. 1995. Identification and localization of K⁺ channels in the mouse retina. *Vis Neurosci* 12: 1177-1190.
- Koulen P. 1999. Localization of synapse-associated proteins during postnatal development of the rat retina. *Eur J Neurosci* 11: 2007-2018.
- Kubisch C, Schroeder BC, Friedrich T, Lutjohann B, Al-Amaroui A, Marlin S, Petit C und Jentsch TJ. 1999. KCNQ4, a novel potassium channel expressed in sensory outer hair cells, is mutated in dominant deafness, *Cell* 96(3): 437-46.
- Li M, Jan YN und Jan LY. 1992. Specification of subunit assembly by the hydrophilic amino-terminal domain of the Shaker potassium channel. *Science*. 257:1225-1230.
- Lopatin AN, Makhina EN and Nichols CG .1994. Potassium channel block by cytoplasmic polyamines as the mechanism of intrinsic rectification. *Nature (Lond.)* 372: 366-369.
- Matsuda H .1987. Ohmic conductance through the inwardly Rectifying K channel and blocking By internal Mg²⁺ . *Nature* 325: 156-159.
- McCarthy DL, Navarrete S, Willett WS, Babbitt PC, Copley SD.1996. Exploration of the relationship between tetrachlorohydroquinone dehalogenase and the glutathione S-transferase superfamily. *Biochemistry*. 19;35(46):14634–14642.
- McCormack, T., and K. McCormack. 1994. Shaker K⁺ channel β subunits belong to an NAD(P)H-dependent oxidoreductase superfamily. *Cell*. 79:1133-1135.
- Müller BM, Kistner U, Veh RW, Cases-Langhoff C, Becker B, Gundelfinger ED, Garner CC. 1995. Molecular characterization and spatial distribution of SAP 97, a Drosophila discs-large tumor suppressor protein. *J Neurosci* 15: 2354-2366.
- Ophoff RA, Terwindt GM, Vergouwe MN, et al. Familial hemiplegic migraine and episodic ataxia type-2 are caused by mutations in the Ca²⁺ channel gene CACNL1A4. *Cell* 1996;87:543-552.
- Pinto LH, Klumpp DJ. 1998. Localization of potassium channels in the retina. *Progr Ret Eye Res* 17 : 207-230.
- Pongs, O. 1992. Molecular biology of voltage-dependent potassium channels. *Physiol. Rev.* 72:S69-S88.
- Pongs, O.1995. Regulation of the activity of voltage-gated potassium channels by β -subunits. *The neurosciences* 7, 137-146.
- Pongs, O., T. Leicher, M. Berger, J. Roeper, R. Bähring, D. Wray, K. P. Giese, A. J. Silva, and J. F. Storm. 1999. Functional and molecular aspects of voltage-gated K⁺ channel beta subunits. *Ann. N. Y. Acad. Sci.* 868:344–355.

Rettig J, Heinemann SH, Wunder F, Lorra C, Parcej DN, Dolly JO, and Pongs O. 1994. Inactivation properties of voltage-gated K⁺ channels altered by presence of beta-subunit. *Nature*. 369:289–294.

Robertson B .1997. The real life of voltage-gated K⁺ channels: more than model behaviour. *Trends Pharmacol Sci* 18:474-483..

Roeper J, and Pongs O. 1996. Presynaptic potassium channels. *Neurobiol. Curr. Opin.* 6:338–341.

Rudy B .1988. Diversity and ubiquity of K channels. *Neuroscience* 25:729-749.

Ruppertsberg JP, Schröter KH, Sakmann B, Stocker M, Sewings S, Pongs O .1990. Heteromultimeric channels formed by rat brain potassium channel proteins. *Nature* 345:535-537.

Salkoff L, Baker K, Butler A, Covarrubias M, Pak MD, Wei A .1992. An essential “set” of K⁺ channels conserved in flies, mice and humans. *Trends Neurosci* 15:161-166.

Scott VE, Rettig J, Parcej DN, Keen JN, Findlay JB, Pongs O, Dolly JO. 1994. Primary structure of a β subunit of α -dendrotoxin-sensitive K⁺ channels from bovine brain. *Proceedings of the National Academy of Sciences, USA* 91, 1637–1641.

Sefton AJ.1995. Visual system .San Diego, academic press.

Sewing S, Roeper J, Pongs O .1996. Kv beta 1 subunit binding specific for shaker-related potassium channel alpha subunits. *Neuron* 16:455-63.

Shen, N. V., and P. J. Pfaffinger. 1995. Molecular recognition and assembly sequences involved in the subfamily-specific assembly of voltage-gated K⁺ channel subunit proteins. *Neuron*. 14:625-633.

Shi G, Nakahira K, Hammond S, Rhodes KJ, Schechter LE, and Trimmer JS. 1996. Beta subunits promote K⁺ channel surface expression through effects early in biosynthesis. *Neuron*. 16:843–852.

Singh NA, Charlier C, Stauffer D, DuPont BR, Leach RJ, Melis R, Ronen GM, Bjerre I, Quattlebaum T, Murphy JV, McHarg ML, Gagnon D, Rosales TO, Peiffer A, Anderson VE, Leppert M. 1998. A novel potassium channel gene, KCNQ2, is mutated in an inherited epilepsy of newborns. *Nat Genet* 18: 25-29.

Tempel BL, Jan YN, Jan LY. 1988. Cloning of a probable potassium channel gene from mouse brain, *Nature*, 332(6167), 837-9,

Tian M, Zhao JW, Yang XL, Xie JX. 2003. Voltage-gated K(+) channel subunits on cholinergic and dopaminergic amacrine cells. *Neuroreport*. 14(14):1763-6.

Tian M, Zhao JW, Yang XL, Xie JX. 2003. Voltage gated K⁺ channel subunits on cholinergic and dopaminergic amacrine cells. *Neuroreport* 14(14):1763-6.

- Tiffany AM, Manganas LN, Kim E, Hsueh Y-P, Sheng M. 2000. PSD-95 and SAP97 Exhibit Distinct Mechanisms for Regulating K⁺ Channel Surface Expression and Clustering. *J Cell Biol* 148(1): 147-157.
- Timpe LC, Jan YN and Jan YN. 1988. Four cDNA clones from the Sh locus of *Drosophila* induce kinetically distinct A-type potassium currents in *Xenopus* oocytes. *Neuron*. 1:659-667.
- Topinka JR, Brecht DS. 1998. N-Terminal palmitoylation of PSD-95 Regulates Association with Cell membranes and Interaction with K⁺ Channel Kv1.4. *Neuron* 20: 125-134.
- Torborg CL, Feller MB. 2005 Spontaneous patterned retinal activity and the refinement of retinal projections. *Prog Neurobiol*. 76(4):213-35.
- Trimmer JS. 1991. Immunological identification and characterization of a delayed rectifier K⁺ channel polypeptide in rat brain. *Proc Natl Acad Sci U S A*. 1991 Dec 1;88(23):10764-8.
- Vandenberg CA.1987. Inward rectification of a potassium channel in cardiac ventricular cells depends on internal magnesium ions. *Proceeding of the National Academy of Sciences, USA* 84, 2560-2564.
- Veh RW, Lichtinghagen R, Sewing S, Wunder F, Grumbach IM and Pongs O. 1995. Immunohistochemical localization of five members of the Kv1 channel subunits: contrasting subcellular locations and neuron-specific co-localizations in rat brain. *Eur. J. Neurosci*. 7:2189–2205.
- Wässle H, Boycott BB .1991. Functional architecture of the mammalian retina. *Physiol.Rev*. 71;447-480.
- Wässle H. 2004. Parallel processing in the mammalian retina. *Nature Reviews Neuroscience* 5: 1-11.
- Wong RO, Meister M, Shatz CJ. 1993. Transient period of correlated bursting activity during development of the mammalian retina. *Neuron*. 11(5):923-38.
- Wong W, Schlichter LC. 2004. Differential recruitment of Kv1.4 and Kv4.2 to Lipid rafts by PSD-95. *JBC* 279(1): 444-452.
- Woods DF and Bryant PJ .1991. The discs-large tumor suppressor gene of *Drosophila* encodes a guanylate kinase homolog localized at septate junctions. *Cell*, 66, 451–464.
- Yamada M and Kurachi Y.1995. Spermine gates inward-rectifying muscarinic but not ATP-sensitive K⁺ channels in rabbit atrial myocytes. *J Biol Chem* 270: 9289-9294.
- Yool AJ, Schwarz TL. 1991.Alteration of ionic selectivity of a K⁺ channel by mutation of the H5 region. *Nature*. Feb 21;349(6311):700–704.

Yu W, Xu J and Li M .1996. NAB domain is essential for the subunit assembly of both α - α and α - β complexes of Shaker-like potassium channels. *Neuron*, 16, 441–453.