



Publikationen

Prof. Dr. Rohini Kuner

(Sortierung: Veröffentlichung)

Research Articles:

1. Gan Z, Gangadharan V, Liu S, Körber C, Tan LL, Li H, Oswald MJ, Kang J, Martin-Cortecero J, Männich D, Groh A, Kuner T, Wieland S, **Kuner R**: Layer-specific pain relief pathways originating from primary motor cortex. *SCIENCE*. 378: 1336-1343, December 2022.
2. Li H, Gan Z, Wang L, Oswald MJ, **Kuner R**: Prolonged Suppression of Neuropathic Hypersensitivity upon Neurostimulation of the Posterior Insula in Mice. *CELLS* 11: 3303, October, 2022.
3. Hirth M, Xie Y, Höper C, Prats A, Hackert T, Ebert MP, **Kuner R**. Genetic Mouse Models to Study Pancreatic Cancer-Induced Pain and Reduction in Well-Being. *CELLS*. 11: 2634, August 2022.
4. Oswald MJ, Han Y, Li H, Marashli S, Oglo DN, Ojha B, Naser PV, Gan Z, **Kuner R**: Cholinergic basal forebrain nucleus of Meynert regulates chronic pain-like behavior via modulation of the prelimbic cortex. *NAT COMMUN*. 13:5014, August, 2022.
5. Mauceri D, **Kuner R**: Protecting against summation of pain. *NEURON*. 110: 2513-2515, August, 2022.
6. **Kuner R**, Kuner T: Sounding out pain. *SCIENCE*. 377:155-156, July, 2022.
7. Hu X, Agarwal N, Zhang MD, Ernfors P, **Kuner R**, Nyengaard JR, Karlsson P: Identification and quantification of nociceptive Schwann cells in mice with and without Streptozotocin-induced diabetes. *J CHEM NEUROANAT*. 123:102118, September, 2022.
8. Gangadharan V, Zheng H, Taberner FJ, Landry J, Nees TA, Pistolic J, Agarwal N, Männich D, Benes V, Helmstaedter M, Ommer B, Lechner SG, Kuner T, **Kuner R**: Neuropathic pain caused by miswiring and abnormal end organ targeting. *NATURE*. 606: 137-145, June, 2022.
9. Litke C, Hagenston AM, Kenkel AK, Paldy E, Lu J, **Kuner R**, Mauceri D: Organic anion transporter 1 is an HDAC4-regulated mediator of nociceptive hypersensitivity in mice. *NAT. COMMUN*. 13: 875, Februar, 2022.
10. Xie RG, Chu WG, Liu DL, Wang X, Ma SB, Wang F, Wang FD, Lin Z, Wu WB, Lu N, Liu YY, Han WJ, Zhang H, Bai ZT, Hu SJ, Tao HR, Kuner T, Zhang X, **Kuner R**, Wu SX, Luo C: Presynaptic NMDARs on spinal nociceptor terminals state-dependently modulate synaptic transmission and pain. *NAT. COMMUN*. 13: 728, Februar, 2022.

11. Morgenstern J, Groener JB, Jende JME, Kurz FT, Strom A, Göpfert J, Kender Z, Le Marois M, Brune M, **Kuner R**, Herzig S, Roden M, Ziegler D, Bendszus M, Szendroedi J, Nawroth P, Kopf S, Fleming T: Neuron-specific biomarkers predict hypo- and hyperalgesia in individuals with diabetic peripheral neuropathy. *DIABETOLOGIA*. 65: 257, Januar 2022.
12. Tan LL, Alfonso J, Moyer H, **Kuner R**: Neurogenesis in the adult brain functionally contributes to the maintenance of chronic neuropathic pain. *SCI. REP.* 11: 18549, September 2021.
13. Demir IE, Reyes CM, Alrawashdeh W, Ceyhan GO, Deborde S, Friess H, Görgülü K, Istvanffy R, Jungwirth D, **Kuner R**, Maryanovich M, Na'ara S, Renders S, Saloman JL, Scheff NN, Steenfadt H, Stupakov P, Thiel V, Verma D, Yilmaz BS, White RA, Wang TC, Wong RJ, Frenette PS, Gil Z: Neural Influences in Cancer (NIC) International Research Consortium, Davis BM: Future directions in preclinical and translational cancer neuroscience research. *NAT CANCER*. 1: 1027-1031, November 2021.
14. Tan LL, Oswald MJ, **Kuner R**: Neurobiology of brain oscillations in acute and chronic pain. *TRENDS NEUROSCI*. 44: 629-642, August 2021.
15. Tan LL, **Kuner R**: Neocortical circuits in pain and pain relief. *NAT REV NEUROSCI*. 22: 458-471. August 2021.
16. Van Battum E, Heitz-Marchaland C, Zagar Y, Fouquet S, **Kuner R**, Chédotal A: Plexin-B2 controls the timing of differentiation and the motility of cerebellar granule neurons. *ELIFE*. 10: e60554, June 2021.
17. García-González D, Dumitru I, Zuccotti A, Yen TY, Herranz-Pérez V, Tan LL, Neitz A, García-Verdugo JM, **Kuner R**, Alfonso J, Monyer H: Neurogenesis of medium spiny neurons in the nucleus accumbens continues into adulthood and is enhanced by pathological pain. *MOL PSYCHIATRY*, doi: 10.1038/s41380-020-0823-4. PMID: 32612250, June 2021.
18. Simonetti M, **Kuner R**: Locus revealed: Painlessness via loss of NaV1.7 at central terminals of sensory neurons. *NEURON*. 109:1413-1416, May 2021.
19. Gan Z, Li H, Naser PV, Han Y, Tan LL, Oswald MJ, **Kuner R**: Repetitive non-invasive prefrontal stimulation reverses neuropathic pain via neural remodelling in mice. *PROG NEUROBIOL*. 201: 102009 (1-20). (Epub February 2021), May 2021.
20. Bali KK, Gandla J, Rangel DR, Castaldi L, Mouritzen P, Agarwal N, Schmelz M, Heppenstall P, **Kuner R**: A genome-wide screen reveals microRNAs in peripheral sensory neurons driving painful diabetic neuropathy. *PAIN* 162:1334-1351, May 2021.
21. Deshpande D, Agarwal N, Fleming T, Gaveriaux-Ruff C, Klose CSN, Tappe-Theodor A, **Kuner R**, Nawroth P: Loss of POMC-mediated antinociception contributes to painful diabetic neuropathy. *NAT COMMUN*. 12: 1-18, February 2021.
22. Agarwal N, Taberner FJ, Rangel Rojas D, Moroni M, Omberbasic D, Njoo C, Andrieux A, Gupta P, Bali KK, Herpel E, Faghihi F, Fleming T, Dejean A, Lechner SG, Nawroth PP, Lewin GR, **Kuner R**: SUMOylation of Enzymes and Ion Channels in Sensory Neurons Protects against Metabolic Dysfunction, Neuropathy, and Sensory Loss in Diabetes. *NEURON* 107:1141-1159.e7, September 2020.
23. Simonetti M, **Kuner R**: Spinal Wnt5a Plays a Key Role in Spinal Dendritic Spine Remodeling in Neuropathic and Inflammatory Pain Models and in the Proalgesic Effects of Peripheral Wnt3a. *J NEUROSCI*. 40: 6664-6677, August 2020.
24. Finnerup NB, **Kuner R**, Jensen TS: Neuropathic Pain: From Mechanisms to Treatment. *PHYSIOL REV*. 101: 259-301, January 2021 (Epub June 2020).

25. Demir IE, Reyes CM, Alrawashdeh W, Ceyhan GO, Deborde S, Friess H, Görgülü K, Istvanffy R, Jungwirth D, **Kuner R**, Maryanovich M, Na'ara S, Renders S, Saloman JL, Scheff NN, Steenfadt H, Stupakov P, Thiel V, Verma D, Yilmaz BS, White RA, Wang TC, Wong RJ, Frenette PS, Gil Z, Davis BM: Clinically Actionable Strategies for Studying Neural Influences in Cancer. *CANCER CELL* 38: 11-14, July 2020.
26. **Kuner R**, Kuner T: Cellular Circuits in the Brain and Their Modulation in Acute and Chronic Pain. *PHYSIOL REV.* 101: 213-258, January 2021 (Epub June 2020).
27. Schwarz D, Hidmark AS, Sturm V, Fischer M, Milford D, Hausser I, Sahm F, Breckwoldt MO, Agarwal N, **Kuner R**, Bendszus M, Nawroth PP, Heiland S, Fleming T: Characterization of experimental diabetic neuropathy using multicontrast magnetic resonance neurography at ultra high field strength. *SCI REP.* 10: 7593, May 2020.
28. Hirth M, Gandla J, Höper C, Gaida MM, Agarwal N, Simonetti M, Demir A, Xie Y, Weiss C, Michalski CW, Hackert T, Ebert MP, **Kuner R**: CXCL10 and CCL21 Promote Migration of Pancreatic Cancer Cells Toward Sensory Neurons and Neural Remodeling in Tumors in Mice, Associated With Pain in Patients. *GASTROENTEROLOGY* 159:665-681, April 2020.
29. Tappe-Theodor A, **Kuner R**: A common ground for pain and depression. *NAT NEUROSCI.* 22(10), 1612-1614, 2019.
30. Simonetti M, Paldy E, Njoo C, Bali KK, Worzfeld T, Pitzer C, Kuner T, Offermanns S, Mauceri D, **Kuner R**: The impact of Semaphorin 4C/Plexin-B2 signaling on fear memory via remodeling of neuronal and synaptic morphology. *MOL PSYCHIATRY.* Doi: 10.1038/s41380-019-0491-4, 2019.
31. Frank T, Nawroth P, **Kuner R**: Structure-function relationships in peripheral nerve contributions to diabetic peripheral neuropathy. *PAIN*; 160 Suppl 1: 29-36, 2019.
32. Rojas DR, **Kuner R**, Agarwal N: Metabolomic signature of type 1 diabetes-induced sensory loss and nerve damage in diabetic neuropathy. *J MOL MED* (Berl). 97, 845-854, 2019.
33. Tan LL, Oswald MJ, Heintz C, Retana Romero OA, Kaushalya SK, Monyer H, **Kuner R**: Gamma oscillations in somatosensory cortex recruit prefrontal and descending serotonergic pathways in aversion and nociception. *NAT COMMUN* 10, 983, 2019.
34. Oliveira AM, Litke C, Paldy E, Hagenston AM, Lu J, **Kuner R**, Bading H, Mauceri D: Epigenetic control of hypersensitivity in chronic inflammatory pain by the de novo DNA methyltransferase Dnmt3a2. *MOL PAIN* 15, 1-10, 2019.
35. Agarwal N, Helmstädter J, Rojas DR, Bali KK, Gangadharan V, **Kuner R**: Evoked hypoalgesia is accompanied by tonic pain and immune cell infiltration in the dorsal root ganglia at late stages of diabetic neuropathy in mice. *MOL PAIN* 14, 1-11, 2018.
36. Rojas DR, Tegeder I, **Kuner R**, Agarwal N: Hypoxia-inducible factor 1 α protects peripheral sensory neurons from diabetic peripheral neuropathy by suppressing accumulation of reactive oxygen species. *J MOL MED* (Berl) 96, 1395-1405, 2018.
37. Naser PV, **Kuner R**: Peripheral Kappa Opioid Receptor Signaling Takes on a Central Role. *NEURON* 99, 1102-1104, 2018.

38. Keefe FJ, Ballantyne J, Blyth F, Coghill RC, Dickenson A, Dionne CE, Eccleston C, Finnerup NB, **Kuner R**, Seminowicz DA, Sluka K: Publishing the best basic and applied pain science: open science and PAIN. *PAIN*, 159, 405-406, 2018.
39. Naser PV, **Kuner R**: Molecular, Cellular and Circuit Basis of Cholinergic Modulation of Pain. *NEUROSCIENCE* 387, 135-148, 2018.
40. Tan LL, Pelzer P, Heintz C, Tang W, Gangadharan V, Flor H, Sprengel R, Kuner T, **Kuner R**: A pathway from midcingulate cortex to posterior insula gates nociceptive hypersensitivity. *NAT NEUROSCI* 20, 1591-1601, 2017.
41. Bali KK, **Kuner R**: Therapeutic potential for leukocyte elastase in chronic pain states harboring a neuropathic component. *PAIN* 158, 2243-2258, 2018.
42. Paldy E, Simonetti M, Worzfeld T, Bali KK, Vicuña L, Offermanns S, **Kuner R**: Semaphorin 4C Plexin-B2 signaling in peripheral sensory neurons is pronociceptive in a model of inflammatory pain. *NAT COMMUN* 8, 176, 2017.
43. Gandla J, Lomada SK, Lu J, **Kuner R**, Bali KK: miR-34c-5p functions as pronociceptive microRNA in cancer pain by targeting Cav2.3 containing calcium channels. *PAIN* 158, 1765-1779, 2017.
44. Selvaraj D, Hirth M, Gandla J, **Kuner R**: A mouse model for pain and neuroplastic changes associated with pancreatic ductal adenocarcinoma. *PAIN* 158, 1609-1621, 2017.
45. Pitzer C, **Kuner R**, Tappe-Theodor A: Express: Voluntary and evoked behavioral correlates in neuropathic pain states under different housing conditions. *MOL PAIN* 12, doi:10.1177/1744806916656635, 2016.
46. Florez-Paz D, Bali KK, **Kuner R**, Gomis A: A critical role for Piezo2 channels in the mechanotransduction of mouse proprioceptive neurons. *SCI REP* 6: 25923. doi: 10.1038/srep25923, 2016.
47. Gritsch S, Bali KK, **Kuner R**, Vardeh D: Functional characterization of a mouse model for central post-stroke pain. *MOL PAIN* 12: doi:1177/1744806916629049, 2016.
48. Eliava M, Melchior M, Knobloch-Bollmann HS, Wahis J, da Silva Gouveia M, Tang Y, Ciobanu AC, Triana Del Rio R, Roth LC, Althammer F, Goumon Y, Gruber T, Petit-Demoulière N, Busnelli M, Chini B, Tan LL, Mitre M, Froemke RC, Chao MV, Giese G, Sprengel R, **Kuner R**, Poisbeau P, Seeburg PH, Stoop R, Charlet A, Grinevich V: A new population of parvocellular oxytocin neurons controlling magnocellular neuron activity and inflammatory pain processing. *NEURON* 89, 1291-304, 2016.
49. Nees TA, Tappe-Theodor A, Sliwinski C, Motsch M, Rupp R, **Kuner R**, Weidner N, Blesch A: Early-onset treadmill training reduces mechanical allodynia and modulates calcitonin gene-related peptide fiber density in lamina III/IV in a mouse model of spinal cord contusion injury. *PAIN* 157, 687-97, 2016.
50. Njoo C, Agarwal N, Lutz B, **Kuner R**: The cannabinoid receptor CB1 interacts with the WAVE1 complex and plays a role in actin dynamics and structural plasticity in neurons. *PLOS BIOL* 13, e1002286, 2015.
51. Selvaraj D, Gangadharan V, Michalski CW, Kurejova M, Stösser S, Srivastava K, Schweizerhof M, Waltenberger J, Ferrara N, Heppenstall P, Shibuya M, Augustin HG, **Kuner R**: A functional role for VEGFR1 expressed in peripheral sensory neurons in cancer pain. *CANCER CELL* 27,780-796, 2015.
52. Lu J, Luo C, Bali KK, Xie RG, Mains RE, Eipper BA, **Kuner R**: A role for Kalirin-7 in nociceptive sensitization via activity-dependent modulation of spinal synapses. *NAT COMMUN* 6, 6820, 2015.

53. Vicuña L, Strohlic DE, Latremoliere A, Bali KK, Simonetti M, Husainie D, Prokosch S, Riva P, Griffin RS, Njoo C, Gehrig S, Mall MA, Arnold B, Devor M, Woolf CJ, Liberles SD, Costigan M, **Kuner R**: The serine protease inhibitor Serpin A3N attenuates neuropathic pain by inhibiting T cell-derived leukocyte elastase. *NAT MED* 21, 518-23, 2015.
54. Selvaraj D, **Kuner R**: Molecular players of tumor-nerve interactions. *PAIN* 156, 6-7, 2015.
55. Gritsch S, Lu J, Thilemann S, Wörtge S, Möbius W, Bruttger J, Karram K, Ruhwedel T, Blanfeld M, Vardeh D, Waisman A, Nave KA, **Kuner R**: Oligodendrocyte ablation triggers central pain independently of innate or adaptive immune responses in mice. *NAT COMMUN* 5, 5472, 2014.
56. Chen JT, Guo D, Campanelli D, Frattini F, Mayer F, Zhou L, **Kuner R**, Heppenstall PA, Knipper M, Hu J: Presynaptic GABAergic inhibition regulated by BDNF contributes to neuropathic pain induction. *NAT COMMUN* 5, 5331, 2014.
57. Simonetti M, Agarwal N, Stösser S, Bali KK, Karaulanov E, Kamble R, Pospisilova B, Kurejova M, Birchmeier W, Niehrs C, Heppenstall P, **Kuner R**: Wnt-Fzd signaling sensitizes peripheral sensory neurons via distinct non-canonical pathways. *NEURON* 83, 104-121, 2014.
58. Njoo C, Heintz C, **Kuner R**: In vivo siRNA transfection and gene knockdown in spinal cord via rapid noninvasive lumbar intrathecal injections in mice. *J VIS EXP* 85, doi: 10.3791/51229, 2014.
59. Bali KK, Hackenberg M, Lubin A, **Kuner R**, Devor M: Sources of individual variability: miRNAs that predispose to neuropathic pain identified using genome-wide sequencing. *MOL PAIN* 10, 22, 2014.
60. Worzfeld T, Swiercz JM, Sentürk A, Genz B, Korostylev A, Deng S, Xia J, Hoshino M, Epstein JA, Chan AM, Vollmar B, Acker-Palmer A, **Kuner R**, Offermanns S: Genetic dissection of plexin signaling in vivo. *PNAS* 111, 2194-2199, 2014.
61. Lu R, Lukowski R, Sausbier M, Zhang DD, Sisignanon M, Schuh CD, **Kuner R**, Ruth P, Geisslinger G, Schmidtke A: BKCa channels expressed in sensory neurons modulate inflammatory pain in mice. *PAIN* 155, 556-65, 2014.
62. Wirotanseng LN, **Kuner R**, Tappe-Theodor A: Gq rather than G11 preferentially mediates nociceptor sensitization. *MOL PAIN* 9, 54, 2013.
63. Kress M, Hüttenhofer A, Landry M, **Kuner R**, Favereaux A, Greenberg D, Bednarik J, Heppenstall P, Kronenberg F, Malcangio M, Rittner H, Uçeyler N, Trajanoski Z, Mouritzen P, Birklein F, Sommer C, Soreq H: microRNAs in nociceptive circuits as predictors of future clinical applications. *FRONT MOL NEUROSCI* 6, 33, 2013.
64. Bali KK, Venkataramani V, Satagopam VP, Gupta P, Schneider R, **Kuner R**: Transcriptional mechanisms underlying sensitization of peripheral sensory neurons by granulocyte-/granulocyte-macrophage colony stimulating factors. *MOL PAIN* 9, 48, 2013.
65. Bali KK, Selvaraj D, Satagopam VP, Lu J, Schneider R, **Kuner R**: Genome-wide identification and functional analyses of micro RNA signatures associated with cancer pain. *EMBO MOL MED* 5, 1740-1758, 2013.
66. Gangadharan V, Selvaraj D, Kurejova M, Njoo C, Gritsch S, Skoricová D, Horstmann H, Offermanns S, Brown AJ, Kuner T, Tappe-Theodor A, **Kuner R**: A novel biological role for the phospholipid lysophosphatidylinositol in nociceptive sensitization via activation of diverse G-protein signaling pathways in sensory nerves in vivo. *PAIN* 154, 2801-2812, 2013.

67. Gaffal E, Cron M, Glodde N, Bald T, **Kuner R**, Zimmer A, Lutz B, Tüting T: Cannabinoid 1 receptors in kreatinocytes modulate proinflammatory chemokine secretion and attenuate contact allergic inflammation. *JIMMUNOL* 190, 4929-4936, 2013.
68. Simonetti M, Hagenston AM, Vardeh D, Freitag E, Mauceri D, Lu J, Satagopam VP, Schneider R, Costigan M, Bading H, **Kuner R**: Nuclear calcium signaling in spinal neurons drives a genomic program required for persistent inflammatory pain. *NEURON* 77, 43-57, 2013.
69. Lu J, Kurejova M, Wirotanseng LN, Linker RA, **Kuner R**, Tappe-Theodor A: Pain in experimental autoimmune encephalitis: a comparative study between different mouse models. *J NEUROINFLAMMATION* 9, 233, 2012.
70. Luo C, Gangadharan V, Bali KK, Xie RG, Agarwal N, Kurejova M, Tappe-Theodor A, Tegeder I, Feil S, Lewin G, Polgar E, Todd AM, Schlossmann J, Hofmann F, Liu DL, Hu SJ, Feil R, Kuner T, **Kuner R**: Presynaptically localized cyclic GMP-dependent protein kinase 1 is a key determinant of spinal synaptic potentiation and pain hypersensitivity. *PLOS BIOL* 10, e1001283, 2012.
71. Sidiropoulos PN, Mieke M, Bock T, Tinelli E, Oertly CI, **Kuner R**, Meijer D, Wollscheid B, Niemann A, Suter U: Dynamin 2 mutations in Charcot-Marie-Tooth neuropathy highlight the crucial importance of clathrin-mediated endocytosis in myelination. *BRAIN* 135, 1395-1411, 2012.
72. Tappe-Theodor A, Constantin CE, Tegeder I, Lechner SG, Langeslag M, Lepczynsky P, Wirotanseng RI, Kurejova M, Agarwal N, Nagy G, Todd A, Wettschureck N, Offermanns S, Kress M, Lewin GR, **Kuner R**: Galpha(q/11) signaling tonically modulates nociceptor function and contributes to activity-dependent sensitization. *PAIN* 153, 184-196, 2012.
73. Tappe-Theodor A, Fu Y, **Kuner R**, Neugebauer V: Homer 1a signaling in the amygdala counteracts pain-related synaptic plasticity, mGluR1 function and pain behaviors. *MOL PAIN* 7, 38, 2011.
74. Witschi R, Punnakkal P, Paul J, Walczak JC, Cervero F, Fritschy JM, **Kuner R**, Keist R, Rudolph U, Zeilhofer HU: Presynaptic alpha2-GABAA receptors in primary afferent depolarization and spinal pain control. *JNEUROSCI* 31, 8134-8142, 2011.
75. Gangadharan V, Wang R, Ulzhöfer B, Luo C, Bardoni R, Bali KK, Agarwal N, Tegeder I, Hildebrandt U, Nagy GG, Todd AJ, Ghirri A, Häussler A, Sprengel R, Seeburg PH, Macdermott AB, Lewin GR, **Kuner R**: Peripheral calcium-permeable AMPA receptors regulate chronic inflammatory pain in mice. *J CLIN INVEST* 121, 1608-1623, 2011.
76. Li KC, Zhang FX, Li CL, Wang F, Yu MY, Zhong YQ, Zhang KH, Lu YJ, Wang Q, Ma XL, Yao JR, Wang JY, Lin LB, Han M, Zhang YQ, **Kuner R**, Xiao HS, Bao L, Gao X, Zhang X: Follistatin-like 1 suppresses sensory afferent transmission by activating Na(+),K(+)-ATPase. *NEURON* 69, 974-987, 2011.
77. Mair N, Benetti C, Andratsch M, Leitner MG, Constantin CE, Camprubi-Robles M, Quarta S, Biasio W, **Kuner R**, Gibbins IL, Kress M, Haberberger RV: Genetic evidence for involvement of neuronally expressed S1P₁ receptor in nociceptor sensitization and inflammatory pain. *PLOS ONE* 6, e17268, 2011.
78. Bishay P, Schmidt H, Marian C, Häussler A, Wijnvoord N, Ziebell S, Metzner J, Koch M, Myrczek T, Bechmann I, **Kuner R**, Costigan M, Dehghani F, Geisslinger G, Tegeder I: R-flurbiprofen reduces neuropathic pain in rodents by restoring endogenous cannabinoids. *PLOS ONE* 5, e10628, 2010.
79. Kurejova M, Nattenmüller U, Hildebrandt U, Selvaraj D, Stösser S, **Kuner R**: An improved behavioural assay demonstrates that ultrasound vocalizations constitute a reliable indicator of chronic cancer pain and neuropathic pain. *MOL PAIN* 6, 18, 2010.

80. Hirschberg A, Deng S, Korostylev A, Paldy E, Costa MR, Worzfeld T, Vodrazka P, Wizenmann A, Götz M, Offermanns S, **Kuner R**: Gene deletion mutants reveal a role for semaphorin receptors of the Plexin-B family in mechanisms underlying corticogenesis. *MOL CELL BIOL* 30, 764-780, 2010.
81. Stösser S, Agarwal N, Tappe-Theodor A, Yanagisawa M, **Kuner R**: Dissecting the functional significance of endothelin A receptors in peripheral nociceptors in vivo via conditional gene deletion. *PAIN* 148, 206-214, 2009.
82. Gangadharan V, Agarwal N, Brugger S, Tegeder I, Bettler B, **Kuner R**, Kurejova M: Conditional gene deletion reveals functional redundancy of GABA-B receptors in peripheral nociceptors in vivo. *MOL PAIN* 5, 68, 2009.
83. Andratsch M, Mair N, Constantin CE, Scherbakov N, Benetti C, Vogl C, Sailer CA, Üceyler N, Brockhaus J, Martini R, Sommer C, Zeilhofer HU, Müller W, **Kuner R**, Davis JB, Rose-John S, Kress M: A key role for gp130 expressed on peripheral sensory nerves in pathological pain. *JNEUROSCI* 29 13473-13483, 2009.
84. Worzfeld T, Rauch P, Karram K, Trotter J, **Kuner R**, Offermanns S: Mice lacking Plexin-B3 display normal CNS morphology and behaviour. *MOL CELL NEUROSCI* 42, 372-381, 2009.
85. Bockhart V, Constantin C, Häussler A, Wijnvoord N, Kanngiesser M, Myrczek T, Pickert G, Popp L, Sobotzik JM, Pasparakis M, **Kuner R**, Geisslinger G, Schultz C, Kress M, Tegeder I: Inhibitor kappa B kinase beta deficiency in primary nociceptive neurons increases TRP-channel sensitivity. *JNEUROSCI* 29, 12919-12929, 2009.
86. Vodrazka P, Korostylev A, Swiercz JM, Worzfeld T, Deng S, Fazzari P, Hirschberg A, Tamagnone L, Offermanns S, **Kuner R**: The Sema4D-Plexin-B signaling complex regulates dendritic complexity in developing neurons via diverse pathways. *EUR J NEUROSCI* 30, 1193-1208, 2009.
87. Toyoda H, Zhao MG, Ulzhofer B, Wu LJ, Xu H, Seeburg PH, Sprengel R, **Kuner R**, Zhuo M: Roles of the AMPA receptor subunit GluA1 but not GluA2 in synaptic potentiation and activation of ERK in the anterior cingulate cortex. *MOL PAIN* 5, 46, 2009.
88. Schweizerhof M, Stösser S, Kurejova M, Njoo C, Gangadharan V, Agarwal N, Schmelz M, Bali KK, Christoph M, Bruggser S, Dickenson A, Simone D, **Kuner R**: Hematopoietic colony stimulating factors mediate tumor-nerve interactions and bone cancer pain. *NAT MED* 15, 802-807, 2009.
89. Liu Y, Yang FC, Okuda T, Dong X, Zylka MJ, Chen CL, Anderson DJ, **Kuner R**, Ma Q: Mechanisms of compartmentalized expression of Mrg class G-protein-coupled sensory receptors. *JNEUROSCI* 28, 125-132, 2008.
90. Luo C, Seeburg PH, Sprengel R, **Kuner R**: Activity-dependent potentiation of calcium signals in spinal sensory networks in inflammatory pain states. *PAIN* 140, 358-367, 2008.
91. Schmidtko A, Luo C, Gao W, Geisslinger G, **Kuner R**, Tegeder I: Genetic deletion of synapsin II reduces neuropathic pain due to reduced glutamate but increased GABA in the spinal cord dorsal horn. *PAIN* 139, 632-643, 2008.
92. Korostylev A, Worzfeld T, Deng S, Friedel RH, Swiercz JM, Vodrazka P, Maier V, Hirschberg A, Ohoka Y, Inagaki S, Offermanns S, **Kuner R**: A functional role for Semaphorin 4D-Plexin-B1 interactions in epithelial branching morphogenesis during organogenesis. *DEVELOPMENT* 135, 3333-3343, 2008.
93. Agarwal N, Pacher P, Tegeder I, Amaya F, Constantin C, Brenner GJ, Rubino T, Michalski CW, Marsicano G, Monory K, Mackie K, Marian C, Batkai S, Parolaro D, Fischer MJ, Reeh P, Kunos G, Kress

- M, Lutz B, Woolf CJ, **Kuner R**: Nociceptor-specific conditional gene deletion reveals that cannabinoids mediate analgesia largely via peripheral type 1 cannabinoid receptors. *NAT NEUROSCI* 10, 870-879, 2007.
94. Deng S, Hirschberg A, Worzfeld T, Penachioni JY, Korostylev A, Swiercz JM, Vodrazka P, Mauti O, Stoeckli ET, Tamagnone L, Offermanns S, **Kuner R**: Plexin-B2, but not plexin-B1, critically modulates neuronal migration and patterning of the developing nervous system in vivo. *J NEUROSCI* 27, 6333-6347, 2007.
95. Tappe-Theodor A, Agarwal N, Katona I, Rubino T, Martini L, Swiercz JM, Mackie K, Monyer H, Parolaro D, Whistler J, Kuner T, **Kuner R**: A molecular basis of analgesic tolerance to cannabinoids. *J NEUROSCI* 27, 4165-4177, 2007.
96. Michalski CW, Laukert T, Sauliunaite D, Pacher P, Bergmann F, Agarwal N, Su Y, Giese T, Giese NA, Bátkai S, Friess H, **Kuner R**: Cannabinoids ameliorate pain and reduce disease pathology in caerulein-induced acute pancreatitis. *GASTROENTEROLOGY* 132, 1968-1978, 2007.
97. Pareek TK, Keller J, Kesavapany S, Agarwal N, **Kuner R**, Pant HC, Iadarola MJ, Brady RO, Kulkarni AB: Cyclin-dependent kinase 5 modulates nociceptive signaling through direct phosphorylation of transient receptor potential vanilloid 1. *PROC NATL ACAD SCI USA* 104, 660-665, 2007.
98. Tappe A, Klugmann M, Luo C, Hirlinger D, Agarwal N, Benrath J, Ehrenguber MU, Düring MJ, **Kuner R**: Synaptic scaffolding protein Homer1a protects against chronic inflammatory pain. *NAT MED* 12, 677-681, 2006.
99. Tappe A, **Kuner R**: Regulation of motor performance and striatal function by synaptic scaffolding proteins of the Homer1 family. *PROC NATL ACAD SCI USA* 103, 774-779, 2006.
100. Zuliani C, Kleber S, Klussmann S, Wenger T, Kenzelmann M, Schreglmann N, Martinez A, Del Rio JA, Soriano E, Vodrazka P, **Kuner R**, Groene HJ, Herr I, Krammer PH, Martin-Villalba A: Control of neuronal branching by the death receptor CD95 (Fas/Apo-1). *CELL DEATH DIFFER* 13, 31-34, 2005.
101. **Kuner R**, Groom A, Bresink I, Kornau HC, Stefovská V, Müller G, Hartmann B, Tschauer K, Waibel S, Ludolph AC, Ikonomidou C, Seeburg PH, Turski L: Late-onset motoneuron disease caused by transgenic expression of a functionally modified AMPA receptor subunit. *PROC NATL ACAD SCI USA* 102, 5826-5831, 2005.
102. Dreyer J, Schleicher M, Tappe A, Schilling K, Kuner T, Kusumawidjaja G, Müller-Esterl W, Oess S, **Kuner R**: (NOS)-interacting protein interacts with neuronal NOS and regulates its distribution and activity. *J NEUROSCI* 24(46): 10454-10465, 2004.
103. Hartmann B, Ahmadi S, Heppenstall P, Zeilhofer HU, Lewin G, Schott C, Seeburg PH, Sprengel R, **Kuner R**: The AMPA receptor subunits, GluR-A and GluR-B reciprocally modulate spinal synaptic plasticity and inflammatory pain. *NEURON* 44, 637-650, 2004.
104. Hartmann J, Blum R, Kovalchuk Y, Adelsberger H, **Kuner R**, Durand GM, Miyata M, Kano M, Offermanns S, Konnerth A: Distinct roles of Gαq and Gα11 for Purkinje cell signaling and motor behavior. *J NEUROSCI* 24, 5119-5130, 2004.
105. Swiercz JM, **Kuner R**, Offermanns S: Plexin-B1/Rho-GEF-mediated RhoA activation involves the receptor tyrosine kinase ErbB-2. *J CELL BIOL* 65, 869-880, 2004.

106. Worzfeld T, Püschel A, Offermanns S, **Kuner R**: Plexin-B family members demonstrate non-redundant expression patterns in the developing mouse nervous system: A anatomical basis for morphogenetic effects of Sema4D during development. *EUR J NEUROSCI* 19, 2622-2632, 2004.
107. Agarwal N, Offermanns S, **Kuner R**: Conditional gene targeting in neurons of the dorsal root ganglia and trigeminal ganglia. *GENESIS* 38, 122-129, 2004.
108. Schneider A, Laage R, von Ahsen O, Fischer A, Rossner M, Scheek S, Grunewald S, **Kuner R**, Weber D, Krüger C, Klausner B, Götz B, Hiemisch H, Newrzella D, Martin-Villalba A, Bach A, Schwaninger M: Identification of regulated genes during permanent focal cerebral ischemia: Characterization of the protein kinase 9b5/MARKL1/MARK4. *J NEUROCHEM* 88, 1114-1126, 2004.
109. **Kuner R**, Teismann P, Trutzel A, Naim J, Richter A, Schmidt N, Bach A, Ferger B, Schneider A: TorsinA, the gene linked to early-onset dystonia, is upregulated by the dopaminergic toxin MPTP in mice. *NEUROSCI LETT* 355, 126-130, 2004.
110. **Kuner R**, Teismann P, Trutzel A, Naim J, Richter A, Schmidt N, Ahsen O, Bach A, Ferger B, Schneider A: TorsinA protects against oxidative stress in COS cells and PC12 cells. *NEUROSCI LETT* 350, 153-156, 2003.
111. Dreyer J, Hirlinger D, Müller-Esterl W, Oess S, **Kuner R**: Spinal upregulation of the nitric oxide synthase-interacting protein NOSIP in a rat model of inflammatory pain. *NEUROSCI LETT* 350, 13-16, 2003.
112. **Kuner R**, Swiercz JM, Zywiets A, Tappe A, Offermanns S: Characterization of the expression of PDZ-RhoGEF, LARG and Galpha12/Galpha1 proteins in the murine nervous system. *EUR J NEUROSCI* 16, 2333-2341, 2002.
113. Swiercz JM*, **Kuner R***, Behrens J, Offermanns S: Plexin-B1 directly interacts with PDZ-RhoGEF/LARG to regulate RhoA and growth cone morphology. *NEURON* 35, 51-63, 2002.
* equally-contributing authors
114. Grunewald S, Schupp BJ, Ikeda SR, **Kuner R**, Steigerwald F, Kornau HC, Kohr G: Importance of the gamma-aminobutyric acid (B) receptor C-termini for G-protein coupling. *MOL PHARMACOL* 1, 1070-1080, 2002.
115. **Kuner R**, Kohr G, Grunewald S, Eisenhardt G, Bach A, Kornau HC: Role of Heteromer formation in GABA-B receptor function. *SCIENCE* 283, 74-77, 1999.
116. Feldemeyer D, Kask K, Brusa R, Kornau HC, **Kolhekar R**, Rozov A, Burnashev N, Jensen V, Hvalby O, Sprengel R, Seeburg PH: Neurological dysfunctions in mice expressing different levels of the Q/R site-unedited AMPAR subunit GluR-B. *NAT NEUROSCI* 2, 57-64, 1999.
117. **Kolhekar R**, Murphy S, Gebhart GF: Thalamic NMDA receptors modulate inflammation-produced hyperalgesia in the rat. *PAIN* 71, 31-40, 1997.
118. Storck T, Kruth U, **Kolhekar R**, Sprengel R, Seeburg, PH: Rapid construction in yeast of complex targeting vectors for gene manipulations in the mouse. *NUCLEIC ACIDS RES* 24, 4594-4596, 1996.
119. **Kolhekar R**, Gebhart GF: Modulation of spinal visceral nociceptive transmission by NMDA receptor activation in the rat. *J NEUROPHYSIOL* 75, 2344-2353, 1996.
120. **Kolhekar R**, Meller ST, Gebhart GF: NMDA-mediated changes in thermal nociception: allosteric modulation at glycine and polyamine recognition sites. *NEUROSCIENCE* 63, 923-936, 1994.

121. **Kolhekar R**, Gebhart GF: NMDA and quisqualate modulation of visceral nociception in the rat. *BRAIN RES* 651, 215-226, 1994.
122. **Kolhekar R**, Meller ST, Gebhart GF: Characterisation of the role of spinal NMDA receptors in thermal nociception in the rat. *NEUROSCIENCE* 57, 385-395, 1993.

Reviews and book chapters

1. **Kuner R**, Flor H: Structural plasticity and reorganisation in chronic pain. *NAT REV NEUROSCI* 18, 20-30, doi: 10.1038/nrn.2016.162, 2016.
2. **Kuner R**: Spinal excitatory mechanisms of pathological pain. *PAIN* 156 Suppl 1, S11-7, 2015.
3. Bali KK, **Kuner R**: Noncoding RNAs: key molecules in understanding and treating pain. *TRENDS MOL MED* 20, 437-448, 2014.
4. Tappe-Theodor A, **Kuner R**: Studying ongoing and spontaneous pain in rodents - challenges and opportunities. *EUR J NEUROSCI* 39, 1881-1890, 2014.
5. Luo C, Kuner T, **Kuner R**: Synaptic plasticity in pathological pain. *TRENDS NEUROSCI* 37, 343-355, 2014.
6. Heintz C, **Kuner R**: Genetic models in pain research. In: Handwerker HO, Arendt-Nielsen L (Eds.). *PAIN MODELS*. IASP Press, 61-79, 2013.
7. Gangadharan V, **Kuner R**: Pain hypersensitivity mechanisms at a glance. *DIS MODEL MECH* 6, 889-895, 2013.
8. Stösser S, Schweizerhof M, **Kuner R**: Hematopoietic colony-stimulating factors: new players in tumor-nerve interactions. *J MOL MED* 89, 321-329, 2011.
9. **Kuner R**: Central mechanisms of pathological pain. *NAT MED* 16, 1258-1266, 2010.
10. Kress M, **Kuner R**: Mode of action of cannabinoids on nociceptive nerve endings. *EXP BRAIN RES* 196, 79-88, 2009.
11. **Kuner R**: Genetic approaches for the study of pain. In: Zhuo M, Gebhart GF (Eds.): *MOLECULAR PAIN* Vol. 1, 235-243, 2007.
12. **Kuner R**, Groom A, Bresink I, Kornau HC, Stefovská V, Müller G, Hartmann B, Tschäuner K, Waibel S, Ludolph AC, Ikonomidou C, Seeburg PH, Turski L: Mechanisms of disease: Late-onset motoneuron disease caused by transgenic expression of a functionally modified AMPA receptor subunit. *ANN NY ACAD SCI* 1053, 269-286, 2005.
13. Gebhart GF, **Kuner R**, Jones RCW, Bielefeldt K: Visceral Hypersensitivity. In: Handwerker H, Brune K (Eds.): *HYPERALGESIA: MOLECULAR MECHANISMS AND CLINICAL IMPLICATIONS*. IASP Press, Vol. 30, 87-104, 2004.
14. **Kuner R**: Nociception. In: Offermanns S, Rosenthal W (Eds.): *ENCYCLOPEDIA OF MOLECULAR PHARMACOLOGY*, 658, 2003.

15. Jerecic J, Single F, Kruth U, Krestel H, **Kolhekar R**, Storck T, Kask K, Higuchi M, Sprengel R, Seeburg PH: Studies on conditional gene expression in the brain. ANN NY ACAD SCI 868, 7-37, 1999.