

Refereed Publications

1. **Dudek, F.E.** and Koopowitz, H. (1973) Adaptation and temporal characteristics of the insect visual response. *J. Comp. Physiol.* 82:33-46.
2. **Dudek, F.E.** (1975) Analysis of "off" latency in insect photoreceptors. *Comp. Biochem. Physiol.* 51A:845-847.
3. **Dudek, F.E.** (1975) The visual response from the compound eye of *Oncopeltus fasciatus*: effects of temperature and sensory adaptation. *J. Insect Physiol.* 21:517-528.
4. Witkovsky, P., **Dudek, F.E.** and Ripps, H. (1975) The slow PIII component of the carp electroretinogram. *J. Gen. Physiol.* 65:119-134.
5. Deadwyler, S.A., **Dudek, F.E.**, Cotman, C. and Lynch, G. (1975) Intracellular responses from rat dentate granule cells in vitro: posttetanic potentiation to perforant path stimulation. *Brain Res.* 88:80-85.
6. **Dudek, F.E.**, Deadwyler, S.A., Cotman, C. and Lynch, G. (1976) Intracellular responses from granule cell layer in slices of rat hippocampus: perforant path synapse. *J. Neurophysiol.* 39:384-393.
7. **Dudek, F.E.** and Blankenship, J.E. (1976) Neuroendocrine (bag) cells of *Aplysia*: spike blockade and a mechanism for potentiation. *Science* 192:1009-1010.
8. Pinsker, H.M. and **Dudek, F.E.** (1977) Bag cell control of egg laying in freely behaving *Aplysia*. *Science* 197:490-493.
9. **Dudek, F.E.** and Blankenship, J.E. (1977) Neuroendocrine cells of *Aplysia brasiliana*. I. Bag cell action potentials and afterdischarge. *J. Neurophysiol.* 40:1301-1311.
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11. **Dudek, F.E.** and Tobe, S.S. (1978) Bag cell peptide acts directly on ovotestis of *Aplysia californica*: basis for an in vitro bioassay. *Gen. Comp. Endocrinol.* 36:618-627.
12. MacVicar, B.A. and **Dudek, F.E.** (1979) Intracellular recordings from hippocampal CA3 pyramidal cells during repetitive activation of the mossy fibers in vitro. *Brain Res.* 168:377-381.
13. **Dudek, F.E.**, Cobbs, J. and Pinsker, H.M. (1979) Bag cell electrical activity underlying spontaneous egg laying in freely behaving *Aplysia brasiliana*. *J. Neurophysiol.* 42:804-817.
14. **Dudek, F.E.**, Hatton, G.I. and MacVicar, B.A. (1980) Intracellular recordings from the paraventricular nucleus in slices of rat hypothalamus. *J. Physiol., London* 301:101-114.
15. **Dudek, F.E.**, Weir, G., Acosta-Urquidi, J. and Tobe, S. (1980) A secretion from neuroendocrine bag cells evokes egg release in vitro from ovotestis of *Aplysia californica*. *Gen. Comp. Endocrinol.* 40:241-244.
16. MacVicar, B.A. and **Dudek, F.E.** (1980) Local synaptic circuits in rat hippocampus: interactions between pyramidal cells. *Brain Res.* 184:220-223.
17. MacVicar, B.A. and **Dudek, F.E.** (1980) Dye-coupling between CA3 pyramidal cells in slices of rat hippocampus. *Brain Res.* 196:494-497.

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18. **Dudek, F.E.**, Soutar, B. and Tobe, S.S. (1980) Reproduction in *Aplysia californica*: correlations between egg laying in vivo and egg release in vitro. *Can. J. Zool.* 58:2163-2166.
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20. Andrew, R.D., MacVicar, B.A., **Dudek, F.E.** and Hatton, G.I. (1981) Dye transfer through gap junctions between neuroendocrine cells of rat hypothalamus. *Science* 211:1187-1189.
21. MacVicar, B.A., Weir, G., Riexinger, K. and **Dudek, F.E.** (1981) Paradoxical effects of lithium on field potentials of dentate granule cells in slices of rat hippocampus. *Neuropharmacology* 20:489-496.
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23. MacVicar, B.A. and **Dudek, F.E.** (1981) Electrotonic coupling between pyramidal cells: a direct demonstration in rat hippocampal slices. *Science* 213:782-784.
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28. **Dudek, F.E.** and Kossatz, A. (1982) Conduction velocity and spike duration during afterdischarge in neuroendocrine bag cells of *Aplysia*. *J. Neurobiol.* 13:319-326.
29. Taylor, C.P. and **Dudek, F.E.** (1982) Synchronous neural afterdischarges in rat hippocampal slices without active chemical synapses. *Science* 218:810-812.
30. Andrew, R.D. and **Dudek, F.E.** (1983) Burst discharge in mammalian neuroendocrine cells involves an intrinsic regenerative mechanism. *Science* 221:1050-1052.
31. Snow, R.W., Taylor, C.P. and **Dudek, F.E.** (1983) Electrophysiological and optical changes in slices of rat hippocampus during spreading depression. *J. Neurophysiol.* 50:561-572.
32. Rothman, B., Weir, G. and **Dudek, F.E.** (1983) Egg-laying hormone: direct action on the ovotestis of *Aplysia*. *Gen. Comp. Endocrinol.* 52:134-141.
33. Andrew, R.D. and **Dudek, F.E.** (1984) Analysis of intracellularly recorded phasic bursting by mammalian neuroendocrine cells. *J. Neurophysiol.* 51:552-566.
34. Snow, R.W. and **Dudek, F.E.** (1984) Synchronous epileptiform bursts without chemical transmission in CA2, CA3 and dentate areas of the hippocampus. *Brain Res.* 298:382-385.
35. Taylor, C.P. and **Dudek, F.E.** (1984) Excitation of hippocampal pyramidal cells by an electrical field

effect. *J. Neurophysiol.* 52:126-142.

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36. Taylor, C.P. and **Dudek, F.E.** (1984) Synchronization without active chemical synapses during hippocampal afterdischarges. *J. Neurophysiol.* 52:143-155.
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38. Snow, R.W. and **Dudek, F.E.** (1984) Electrical fields directly contribute to action potential synchronization during convulsant-induced epileptiform bursts. *Brain Res.* 323:114-118.
39. Traub, R.D., **Dudek, F.E.**, Taylor, C.P. and Knowles, W.D. (1985) Simulation of hippocampal afterdischarges synchronized by electrical interactions. *Neuroscience* 14:1033-1038.
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43. Snow, R.W. and **Dudek, F.E.** (1986) Evidence for neuronal interactions by an electrical field effect in CA3 and dentate regions of rat hippocampal slices. *Brain Res.* 367:292-295.
44. Riexinger, K.G., Petit, T.L. and **Dudek, F.E.** (1986) The effects of lead exposure on field potentials of CA3 pyramidal cells from mossy fiber stimulation in rat hippocampus. *Neurotoxicology* 7:35-46.
45. **Dudek, F.E.**, Ide, C.F. and Tompkins, R. (1987) Unresponsive, a behavioral mutant in *Xenopus laevis*: electrophysiological studies of the neuromuscular system. *J. Neurobiol.* 18:237-243.
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50. Cronin, J. and **Dudek, F.E.** (1988) Chronic seizures and collateral sprouting of dentate mossy fibers after kainic acid treatment in rats. *Brain Res.* 474:181-184.
51. Gribkoff, V.K., Christian, E.P., Robinson, J.H., Deadwyler, S.A. and **Dudek, F.E.** (1988) Cholinergic excitation of supraoptic neurons in hypothalamic slices of rat. *Neuropharmacology* 27:721-727.
52. Gribkoff, V.K. and **Dudek, F.E.** (1988) The effects of the excitatory amino acid antagonist kynurenic acid on synaptic transmission to supraoptic neuroendocrine cells. *Brain Res.* 442:152-156.

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53. Gribkoff, V.K. and **Dudek, F.E.** (1990) The effects of excitatory amino acid antagonists on synaptic responses of supraoptic neurons in slices of rat hypothalamus. *J. Neurophysiol.* 63:60-71.
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59. Wuarin, J.P. and **Dudek, F.E.** (1991) Excitatory amino acid antagonists inhibit synaptic responses in the guinea pig hypothalamic paraventricular nucleus. *J. Neurophysiol.* 65:946-951.
60. Hoffman, N.W., Tasker, J.G. and **Dudek, F.E.** (1991) Immunohistochemical differentiation of electrophysiologically defined neuronal populations in the region of the rat paraventricular nucleus. *J. Comp. Neurol.* 307:405-416.
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63. Kim, Y.I. and **Dudek, F.E.** (1991) Intracellular electrophysiological study of suprachiasmatic nucleus neurones in rodents: excitatory synaptic mechanisms. *J. Physiol., London* 444:269-287.
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67. Tasker, J.G., Peacock, W.J. and **Dudek, F. E.** (1992) Local synaptic circuits and epileptiform activity in slices of neocortex from children with intractable epilepsy. *J. Neurophysiol.* 67:496-507.
68. Kim, Y.I. and **Dudek, F.E.** (1992) Intracellular electrophysiological study of suprachiasmatic nucleus neurones in rodents: inhibitory synaptic mechanisms. *J. Physiol., London* 458:247-260.

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69. Schweitzer, J.S., Patrylo, P.R. and **Dudek, F.E.** (1992) Prolonged field bursts in the dentate gyrus: dependence on low calcium, high potassium and nonsynaptic mechanisms. *J. Neurophysiol.* 68:2016-2025.
70. Meier, C.L., Obenaus, A. and **Dudek, F.E.** (1992) Persistent hyperexcitability in isolated hippocampal CA1 of kainate-lesioned rats. *J. Neurophysiol.* 68:2120-2127.
71. Kim, Y.I. and **Dudek, F.E.** (1993) Membrane properties of rat suprachiasmatic nucleus neurons receiving optic nerve input. *J. Physiol., London* 464:229-243.
72. Bouskila, Y. and **Dudek, F.E.** (1993) Neuronal synchronization without active calcium-dependent synaptic transmission in the hypothalamus. *Proc. Nat. Acad. Sci. USA* 90:3207-3210.
73. Wuarin, J.P. and **Dudek, F.E.** (1993) Patch clamp analysis of spontaneous synaptic currents in supraoptic neuroendocrine cells of the rat hypothalamus. *J. Neurosci.* 13:2323-2331.
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75. Tasker, J.G. and **Dudek, F.E.** (1993) Local inhibitory synaptic inputs to neurones of the paraventricular nucleus in slices of rat hypothalamus. *J. Physiol., London* 469:179-192.
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77. Kim, Y.I., Peacock, W.J. and **Dudek, F.E.** (1993) Properties and synaptic mechanisms of bicuculline-induced epileptiform bursts in neocortical slices from children with intractable epilepsy. *J. Neurophysiol.* 70:1759-1766.
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83. Bouskila, Y. and **Dudek, F.E.** (1995) Can a population of suprachiasmatic nucleus neurons with different period lengths produce a stable circadian rhythm? *Brain Res.* 670:333-336.
84. Coltman, B.N., Earley, E.M., Shahar, A., **Dudek, F.E.** and Ide, C.F. (1995) Factors influencing mossy fiber collateral sprouting in organotypic slice cultures of neonatal mouse hippocampus. *J. Comp. Neurol.* 362:209-222.

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85. Hassinger, T.D., Atkinson, P.B., Strecker, G.J., Whalen, L.R., **Dudek, F.E.**, Kossel, A.H. and Kater, S.B. (1995) Evidence for glutamate-mediated activation of hippocampal neurons by glial calcium waves. *J. Neurobiol.* 28:159-170.
86. Bouskila, Y. and **Dudek, F.E.** (1995) A rapidly activating type of outward rectifier K⁺ current and A-current in rat suprachiasmatic nucleus neurones. *J. Physiol., London* 488:339-350.
87. Tasker, J.G., Hoffman, N.W., Kim, Y.I., Fisher, R.S., Peacock, W.J. and **Dudek, F.E.** (1996) Electrical properties of neocortical neurons in slices from children with intractable epilepsy. *J. Neurophysiol.* 75:931-939.
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90. Smith, B.N. and **Dudek, F.E.** (1996) Amino acid-mediated regulation of spontaneous synaptic activity patterns in the rat basolateral amygdala. *J. Neurophysiol.* 76:1958-1967.
91. Meier, C. and **Dudek, F.E.** (1996) Spontaneous and stimulation-induced synchronized burst afterdischarges in the isolated CA1 of kainate-treated rats. *J. Neurophysiol.* 76:2231-2239.
92. Smith, B.N. and **Dudek, F.E.** (1997) Enhanced population responses in the basolateral amygdala of kainate-treated, epileptic rats in vitro. *Neurosci. Lett.* 222:1-4.
93. Buckmaster, P.S. and **Dudek, F.E.** (1997) Network properties of the dentate gyrus in epileptic rats with hilar neuron loss and granule cell axon reorganization. *J. Neurophysiol.* 77:2685-2696.
94. Buckmaster, P. and **Dudek, F.E.** (1997) Neuron loss, granule cell reorganization, and functional changes in the dentate gyrus of epileptic kainate-treated rats. *J. Comp. Neurol.* 385:385-404.
95. Strecker, G.J., Wuarin, J.-P. and **Dudek, F.E.** (1997) GABA-mediated local synaptic pathways in the rat suprachiasmatic nucleus. *J. Neurophysiol.* 78:2217-2220.
96. Rash, J., Duffy, H.S., **Dudek, F.E.**, Bilhartz, B.L., Whalen, L.R., and Yasumura, T. (1997) Grid-mapped freeze-fracture analysis of gap junctions in gray and white matter of adult rat central nervous system, with evidence for a "pan-glial syncytium" that is not coupled to neurons *J. Comp. Neurol.* 388:265-292.
97. Patrylo, P.R. and **Dudek, F.E.** (1998) Physiological unmasking of new glutamatergic pathways in the dentate gyrus of hippocampal slices from kainate-induced epileptic rats. *J. Neurophysiol.* 79:418-429.
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99. Hellier, J.L., Patrylo, P.R., Buckmaster, P.S. and **Dudek, F.E.** (1998) Recurrent spontaneous motor seizures after repeated low-dose systemic treatment with kainate: assessment of a rat model of temporal lobe epilepsy. *Epilepsy Res.* 31:73-84.
100. Smith, B.N., Dou, P., Barber, W.D. and **Dudek, F.E.** (1998) Vagally-evoked synaptic currents in the immature rat nucleus tractus solitarius in an intact in vitro preparation. *J. Physiol., London.* 512:1:149-162.

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101. Strecker, G.J., Park, W.K. and **Dudek, F.E.** (1999) Zinc and flunitrazepam modulation of GABA-mediated currents in rat suprachiasmatic neurons. *J. Neurophysiol.* 81:184-191.
102. Buckmaster, P.S. and **Dudek, F.E.** (1999) In vivo intracellular analysis of granule cells and interneurons in the dentate gyrus of kainate-induced epileptic. *J. Neurophysiol.* 81:712-721.
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108. Hellier, J.L., Patrylo, P.R., Dou, P., Nett, M., Rose, G., **Dudek, F.E.** (1999) Assessment of inhibition and epileptiform activity in the septal dentate gyrus of freely-behaving rats during the first week after kainate treatment. *J. Neurosci.* 19:10053-10064.
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114. Suter, K.J., Wuarin, J.-P., Smith, B.N., **Dudek, F.E.**, and Moenter, S.M. (2000) Whole-cell recordings from preoptic/hypothalamic slices reveal burst firing in gonadotropin-releasing hormone (GnRH) neurons identified with green fluorescent protein (GFP) in transgenic mice. *Endocrinology* 141:3731-3736.

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115. Smith, B.N. and **Dudek, F.E.** (2001) Short- and long-term changes in CA1 network excitability after kainate treatment in rats. *J. Neurophysiol.* 85:1-9.
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