

Abkürzungen

Abb.	Abbildung
AP	Area postrema
BSA	bovines Serumalbumin
C	Celsius
CCK	Cholecystokinin
CCK-8S	sulfatiertes Cholecystokinin-Oktapeptid
CGRP	Calcitonin-Gene-Related-Peptide
cm	Zentimeter
CRF	Corticotropin-Releasing Faktor
DVK	Dorsaler Vagaler Komplex
DMV	Dorsaler Motornucleus des Vagus
g	Gramm
GABA	Gamma-Amino-Buttersäure
h	Stunde
icv.	intracerebroventrikulär
ID	Innendurchmesser
i.p.	Intraperitoneal
iv.	intravenös
kg	Kilogramm
KG	Körpergewicht
LC	Locus Coeruleus
LCK	Locus Coeruleus-Komplex
LHA	Lateraler Hypothalamus
M	molar
Min.	Minuten
MMC	Migrating Motor Complex
µl	Mikroliter

µmol	Mikromol
N	normal
NaCl	Natriumchlorid
nl	Nanoliter
NPY	Neuropeptid Y
NTS	Nucleus tractus solitarii
PVN	Paraventrikulärer Nucleus des Hypothalamus
SEM	Mittlerer Standardfehler
SON	Nucleus Supraopticus
TRH	Thyreotropin-Releasing Hormon
VIP	Vasoactives intestinales Polypeptid
VMH	Ventro medialer Hypothalamus
VMM	Ventro mediale Medulla
ZNS	Zentrales Nerven System

Literaturverzeichnis

1. Anika, M.S., Effects of cholecystokinin and caerulein on gastric emptying, Eur. J. Pharmacol., 85 (1982) 195-199.
2. Aravich, P.F. and Sclafani, A., Paraventricular hypothalamic lesions and medial hypothalamic knife cuts produce similar hyperphagia syndromes, Behav. Neurosci., 97 (1983) 970-983.
3. Beaumonts, W. and Osler, W., Experiments and observations on gastric juice and the physiology of digestion, Dover Publications Inc. New York, (1833) 1-280.
4. Benouali-Pellissier, S., Roger, T. et al., A possible interaction between serotonin and cholecystokinin-8 in the ileo-colonic motor response to feeding in rats, Scand. J. Gastro., 29 (1994) 138-143.
5. Bock, M.G., DiPardo, R.M. et al., Benzodiazepine gastrin and brain cholecystokinin receptor ligands: L-365,260, J. Med. Chem., 32 (1989) 13-16.
6. Bonaz, B., Martin, L. et al., Involvement of hypothalamic noradrenergic systems in the modulation of intestinal motility in rats, Brain Res., 583 (1992) 332-335.
7. Bueno, L., Involvement of brain CCK in the adaption of gut motility to digestive status and stress: A review, J. Physiol. (Paris), 87 (1993) 301-306.
8. Bueno, L. and Ferre, J.P., Central regulation of intestinal motility by somatostatin and cholecystokinin octapeptide, Science, 216 (1982) 1427-1429.
9. Corp, E.S., McQuade, J. et al., Characterization of type A and type B CCK receptor binding sites in rat vagus nerve, Brain Res., 623 (1993) 161-166.
10. Crawley, J.N. and Kiss, J.Z., Paraventricular nucleus lesions abolish the inhibition of feeding induced by systemic cholecystokinin, Peptides, 6 (1985) 927-935.

11. Day, N.C., Hale, M.D. et al., High concentrations of cholecystokinin binding sites in the ventromedial hypothalamic nucleus, *Neuropeptides*, 8 (1986) 1-18.
12. Day, H.E., McKnight, A.T. et al., Evidence that cholecystokinin induces immediate early gene expression in the brainstem, hypothalamus and amygdala of the rat by a CCK-A receptor mechanism, *Neuropharmacology*, 33 (1994) 719-727.
13. DeFanti, B.A., Backus, R.C. et al., Lean (Fa/Fa) but not obese (fa/fa) zucker rats release cholecystokinin at PVN after a gavaged meal, *Am. J. Physiol.*, 275 (1998) E1-E5.
14. Della- Fera, M.A., Baile, C.A. et al., Cholecystokinin antibodies injected in cerebral ventricles stimulates feeding in sheep, *Science*, 212 (1989) 687-689.
15. Dockray, G.J., Immunoreactive component resembling cholecystokinin octapeptide in intestine, *Nature*, 270 (1977) 359-361.
16. Dockray, G.J., Cholecystokinin. In: *Gut hormones*, edited by Bloom. S.R. and Polak, J.M., Livingstone, Edinburgh, (1980) 229-239.
17. Dourish, C.T., Rycroft, W. et al., Postponement of satiety by blockade of brain cholecystokinin (CCK-B) receptors, *Science*, 245 (1989) 1509-1511.
18. Van Dijk, A.J., Richards, J.G. et al., Cholecystokinin receptors: biochemical demonstration and autoradiographical localization in rat brain and pancreas using (³H) cholecystokinin-8 as radioligand, *J. Neurosci.*, 4 (1984) 1021-1033.
19. Elam, M., Thoren, P., Locus coeruleus neurons and sympathetic nerves: activation by visceral afferents, *Brain Res.*, 68 (1986) 117-125.
20. Faris, P.L., Scallet, J.C. et al., Behavioural immunohistochemical analysis of the function of cholecystokinin in the hypothalamic paraventricular nucleus, *Soc. Neurosci. Abstr.*, 9 (1983) 184.
21. Ferguson, A.V., Marcus, P. et al., Paraventricular nucleus stimulation causes gastroduodenal mucosal necrosis in the rat, *Am. J. Physiol.*, 255 (1988) R861-R865.

22. Flanagan, L.M., Dohanics, J. et al., Gastric motility and food intake in rats after lesions of hypothalamic paraventricular nucleus, *Am. J. Physiol.*, 263 (1992) R39-R44.
23. Flanagan, L.M., Olson, B.R. et al., Gastric motility in conscious rats given oxytocin and an oxytocin antagonist centrally, *Brain Res.*, 578 (1992) 256-260.
24. Flanagan, L.M., Verbalis, J.G. et al., Effects of anorexigenic treatments on gastric motility in rats, *Am. J. Physiol.*, 256 (1989) R955-R961.
25. Fujimiya, M., Itoh, E. et al., Neuropeptide Y induces fasted pattern of duodenal motility via Y₂ receptors in conscious fed rats, *Am. J. Physiol.*, 278 (2000) G32-G38.
26. Giralt, M. and Vergara, P., Both afferent and efferent nerves are implicated in cholecystokinin motor actions in the small intestine of the rat, *Regulatory Peptides*, Volume 81, Issues 1-3 (1999) 73-80.
27. Glatzle, J., Darcel, N. et al. Apolipoprotein A-IV stimulates duodenal vagal afferent activity to inhibit gastric motility via CCK 1 pathway, *Am. J. Physiol.*, 287 (2004) R354-R359.
28. Goltermann, N.R., Rehfeld, J.F. et al., In vivo biosynthesis of cholecystokinin in rat cerebral cortex, *J. Biol. Chem.*, 255 (1980) 6181-6185.
29. Grill, H.J. and Kaplan, J.M., Caudal brainstem participates in the distributed neural control of feeding, In: *Neurobiology of Food and Fluid Intake. Handbook of Behavioural Biology*, volume 10, chapter 6, edited by Stricker, E.M., New York: Plenum Press (1990) 125-149.
30. Grossman, M.I., Proposal: Use the term cholecystokinin in place of cholecystokinin pancreozymin, *Gastroenterology*, 58 (1970) 128.
31. Grundy, D., Lahann, T.R. et al., Thyrotropin-releasing hormone: stimulation of colonic activity following intracerebroventricular administration, *Science*, 96 (1977) 660-661.

32. Gue, M., Bueno, L., Brain CCK-A receptors mediate the colonic motor response to feeding in dog, *Peptides*, 12 (1991) 523-527.
33. Gue, M., Del Rio, C. et al., Interaction between CCK and opioids in the modulation of the rectocolonic inhibitory reflex in rats, *Am. J. Physiol.*, 32 (1995) G240-G245.
34. Gulber, U., Chua, A.O. et al., Cloned cDNA to cholecystokinin mRNA predicts an identical pre-pro-cholecystokinin in pig brain and gut, *Proc. Natl. Acad. Sci. USA*, (1981) 4307-4310.
35. Gunion, M.W., Kauffman, G.J. et al., Intrahypothalamic microinfusion of corticotropin-releasing factor elevates gastric bicarbonate secretion and protects against cold-stress ulceration in rats, *Am. J. Physiol.*, 258 (1990) G152-G157.
36. Gunion, M.W., Tache, Y., Intrahypothalamic microinfusion of corticotropin-releasing factor inhibits gastric acid secretion but increases secretion volume in rats, *Brain Res.*, 411 (1987) 156-161.
37. Gunion, M.W., Tache, Y., Bombesin microinfusion into the paraventricular nucleus suppresses gastric acid secretion in the rat, *Brain Res.*, 422 (1987) 118-128.
38. Hall, W., Bruno, J., Inhibitory controls of ingestion in 6-day old rat pups, *Physiol. Behav.*, 32 (1984) 831-841.
39. Harvey, R.R., Dowsett, L. et al., Radioimmunoassay of cholecystokinin-pancreozymin, *Gut*, 15 (1974) 690-699.
40. Holzer, P., Spinal afferent nerves: sensory, afferent and efferent functions. In: *Innervation of the gut; pathophysiological implications*, edited by Tache; Y.; Wingate, D.L., CRC Press, Boca Raton, (1999) 123-136.
41. Hölzer, H.H., Turkelson, C.M. et al., Intestinal lipid inhibits gastric emptying via CCK and a vagal capsaicin-sensitive afferent pathway in rats, *Am. J. Physiol.*, 267 (1994) G625-G629.
42. Ivy, A.C. and Oldberg, E., A hormone mechanism for gallbladder contraction and evacuation, *Am. J. Physiol.*, 86 (1928) 599-613.

43. Jensen, R.T., Wanks, A. et al., Interaction of CCK with pancreatic acinar cells, Trends. Pharmacol. Sci. 10 (1989) 418-423.
44. Jin, Y., Ueta, Y. et al., Synaptic inputs from the stomach to tuberoinfundibular neurons in the paraventricular nucleus of the hypothalamus in rats, Brain Res., 617 (1993) 151-154.
45. Jorpes, J.E., Mutt, V., Cholecystokinin and pancreozymin, one single hormon, Acta. Physiol. Scand., 66 (1966) 196-202.
46. Kawano, H., Masuko, S., Neurons in the caudal ventrolateral medulla projecting to the paraventricular hypothalamic nucleus receive synaptic inputs from the nucleus of the solitary tract: a light and electron microscopic double -labeling study in the rat, Neurosci. Lett., 218 (1996) 33-36.
47. Kopin, A.S., McBride, E.W. et al. Identification of a series of CCK-2 receptor nonpeptide agonists: Sensitivity to stereochemistry and a receptor point mutation, PNAS., 100 (2003) 5525-5530.
48. Lal, S., McLaughlin, L., et al. Cholecystokinin pathways modulate sensations induced by gastric distension in man, Am. J. Physiol., (2004).
49. Larsson, L.J., Rehfeld, J.F., Localization and molecular heterogeneity of cholecystokinin in the central and peripheral nervous system, Brain Res., 165 (1979) 201-218.
50. Leibowitz, S.F., Hammer, N.J. et al., Hypothalamic paraventricular nucleus lesions produce overeating and obesity in the rat, Pharmacol. Biochem. Behav., 27 (1981) 1031-1040.
51. Liberge, M., Arruebo, M.P. et al., Role of hypothalamic cholecystokinin octapeptide in the colonic motor response to a meal in rats, Gastroenterology, 100 (1991) 441-449.
52. Liberge, M., Arruebo, M.P. et al., CCK-8 neurons of the ventromedial (VMH) hypothalamus mediate the upper gut motor changes associated with feeding in rats, Brain Research, 508 (1990) 118-123.

53. Liddle, R.A., Morita, E.T. et al., Regulation by gastric emptying in humans by cholecystokinin, *Clin. Invest.*, 77 (1986) 992-996.
54. Liu, S. and Ju, G., Origin of CCK-like immunoreactive nerve fibers in the neurohypophysis of the rat, *Brain Research*, 651 (1994) 7-15.
55. Lorenz, D.N., Goldman, S.A., Vagal mediation of the cholecystokinin satiety effects in rats, *Physiol. Behav.*, 29 (1982) 599-604.
56. Luckman, S.M., Hamamura, M. et al., Involvement of cholecystokinin receptor types in pathways controlling oxytocin secretion, *Br. J. Pharmacol.*, 110 (1993) 378-384.
57. Marciani, L., Gowland, P.A. et al., Effect of meal viscosity and nutrients on satiety, intragastric dilution and emptying assessed by MRI, *Am. J. Physiol.*, 280 (2001) G1227-G1233.
58. McCann, M.J., Hermann, G.E. et al., Dorsal medullary serotonin and gastric motility: enhancement of effects by thyrotropin-releasing hormone, *J. Auton. Nerv. Syst.*, 25/1 (1988) 35-40.
59. McCann, M.J., Verbalis, J.G. et al., Capsaicin pretreatment attenuates multiple responses to cholecystokinin in rats, *J. Auton. Nerv. Syst.*, 23 (1988) 265-272.
60. McCann, M.J., Verbalis, J.G. et al., LiCl and CCK inhibit gastric emptying and feeding and stimulate OT secretion in rats, *Am. J. Physiol.*, 256 (1989) R463-R468.
61. McLaughlin, C.L., Baile, C.A. et al., Effect of CCK antibodies on food intake and weight gain in zucker rats, *Physiol. Behav.*, 34 (1985) 277-282.
62. McLaughlin, C.L., Baile, C.A. et al., Meal-stimulated increased concentrations of CCK in the hypothalamus of zucker obese and lean rats, *Physiol. Behav.*, (1985) 215-220.
63. Medhus, A.W., Sandstad, O. et al., The migrating motor complex modulates intestinal motility response and rate of gastric emptying of caloric meals, *Neurogastroenterol. Motil.*, 7 (1994) 1-8.

64. Medhus, A.W., Sandstad, O. et al., The influence of the migrating motor complex on the postprandial endocrine response, *Scand. J. Gastroenterol.*, 34 (1999) 1012-1018.
65. Meister, B., Broberger, C. et al., Cholecystokinin B receptor gene expression in hypothalamic neurosecretory neurons after experimental manipulations, *Neuroendocrinology*, 60 (1994) 458-469.
66. Menozzi, D., Gardner, J.D et al., Properties of receptors for gastrin and CCK on gastric smooth muscle cells, *Am. J. Physiol.*, 257 (1989) G73-G79.
67. Miller, L.J., Characterization of cholecystokinin receptors on human gastric smooth muscle tumors, *Am. J. Physiol.*, 247 (1984) G402-G410.
68. Miller, L.J., Heterogeneity of CCK receptors: classification and characterization. In: *CCK Antagonists in Gastroenterology*, edited by Adler, G.; Beglinger, C., Springer Verlag, Berlin, Heidelberg (1991).
69. Million, M., Fioramonti, J. et al., Central administration of Tyr-MIF-1 stimulates gastrointestinal motility in rats: Evidence for the involvement of dopamine, sigma and CCK receptors, *Neuropeptides*, 26 (1994) 77-85.
70. Mönnikes, H., Lauer, G. et al., CCK induced c-fos expression in the locus coeruleus, the nucleus of the solitary tract and the paraventricular nucleus of the hypothalamus via capsaicin-sensitive pathways and CCK-A-receptors, *Gut*, 37 (1995) A93.
71. Mönnikes, H., Lauer, G. et al., Pathways of Fos expression in locus coeruleus, dorsal vagal complex and PVN in response to intestinal lipid, *Am. J. Physiol.*, 273 (1997) R2059-R2071.
72. Mönnikes, H., Raybould, H.E. et al., CRF in the paraventricular nucleus of the hypothalamus stimulates colonic motor activity in fasted rats, *Peptides*, 14 (1993) 743-747.
73. Mönnikes, H., Schmidt, B.G. et al., CRF in the paraventricular nucleus mediates gastric and colonic motor response to restraint stress, *Am. J. Physiol.*, 262 (1992) G137-G143.

74. Mönnikes, H., Schmidt, B.G. et al., Physiological stress-induced accelerated colonic transit in rats involves hypothalamic corticotropin-releasing factor, *Gastroenterology*, 104 (1993) 716-723.
75. Mönnikes, H., Schmidt, B.G. et al., Microinfusion of corticotropin-releasing factor (CRF) into the locus coeruleus/subcoeruleus nuclei stimulates colonic motor function in rats, *Brain Res.*, 644 (1994) 101-108.
76. Mönnikes, H., Tebbe, J. et al., Microinfusion of corticotropin-releasing factor into the locus coeruleus/subcoeruleus nuclei inhibits gastric acid secretion via spinal pathways in the rat, *Brain Res.*, 728 (1996) 157-165.
77. Moran, T.H., McHugh, P.R., Cholecystokinin suppresses food intake by inhibiting gastric emptying, *Am. J. Physiol.*, 242 (1982) R491-R497.
78. Mukhopadhyay, A.K., Thor, P.J. et al., Effect of cholecystokinin on myoelectric activity of small intestine of the dog, *A. J. Physiol.*, 232 (1977) 44-49.
79. Mutt, V. and Jorpes, J.E., Hormonal polypeptides of the upper intestine, *Biochemical journal*, 125 (1971) 57-56.
80. Nilaver, G., Zimmerman, E.A. et al., Magnocellular hypothalamic projections to the lower brainstem and spinal cord of the rat. Immunocytochemical evidence for predominance of the oxytocin-neurophysin system compared to the vasopressin-neurophysin system, *Neuroendocrinology*, 30 (1980) 150-158.
81. Olson, B.R., Drutarosky, M.D. et al., Brain oxytocin receptors mediate corticotropin releasing factor-induced anorexia, *Am. J. Physiol.*, 260 (1991) R448-R452.
82. Olson, B.R., Drutarosky, M.D. et al., Brain oxytocin receptor antagonism blunts the effects of anorexigenic treatments in rats: evidence for central oxytocin inhibition of food intake, *Endocrinology*, 129 (1991) 785-791.
83. Olson, B.R., Drutarosky, M.D. et al., Oxytocin and an oxytocin agonist administered centrally decrease food intake in rats, *Peptides*, 12 (1991) 113-118.

84. Olson, B.R., Hoffman, G.E. et al., Cholecystokinin induced c-fos expression in hypothalamic oxytocinergic neurons projecting to the dorsal vagal complex, *Brain Res.*, 569 (1992) 238-248.
85. Ondetti, M.A., Pluscec, J. et al., Synthesis of cholecystokinin-pancreozymin. In: the C-terminal dodecapeptide. *J. Am. Chem. Soc.*, 92 (1970) 195-216.
86. Onaka,T., Luckman, S.M. et al., Involvement of the noradrenergic afferents from the nucleus tractus solitarii to the supraoptic nucleus in oxytocin release after peripheral cholecystokinin octapeptid in rat, *Neuroscience*, 66 (1995) 403-412.
87. Ohtake, M. and Sakaguchi, T., Inhibition of gastric acid secretion evoked by activation of the hypothalamic paraventricular nucleus, *Exp. Brain Res.*, 66 (1987) 222-224.
88. Ouyang, A., Sunshine, A.G. et al., Caloric content of a meal affects duration but not contractile pattern of duodenal motility in man, *Dig. Dis. Sci.*, 34 (1989) 528-536.
89. O`Shea, R.D. and Gundlach, A.L., Regulation of cholecystokinin receptors in the hypothalamus of the rat: reciprocal changes in magnocellular nuclei induced by food deprivation and dehydration, *J. Neuroendocrinol.*, 5 (6) (1993) 697-704.
90. Pavlow, I. and Anonymous, The work of the digestive glands. In: English translation by Thompson, Q.H. and Griffin, C.& Co., London, 1910.
91. Paxinos, G. and Watson, C., The brain in stereotaxic coordinates. Academic Press, San Diego 1997.
92. Petrov, T., Krukoff, T.L. et al., Branching projections of catecholaminergic brainstem neurons to the paraventricular hypothalamic nucleus and the central nucleus of the amygdala in the rat, *Brain Res.*, 609 (1993) 81-92.
93. Polak, J.M., Bloom, S.R. et al., Identification of cholecystokinin-secreting cells, *Lancet*, 2 (1975) 1016-1018.

94. Polak, J.M., Pearse, A.G. et al., Complete identification of endocrine cells in the gastrointestinal tract using semithin-thin sections to identify motilin cells in human and animal intestine, *Gut*, 16 (1975) 225-229.
95. Powers, M.A., Lawson, D.C. et al., The impact of total parenteral nutrition and taste on sham feeding in dogs, *Gastroenterology*, (1990) A246-A250.
96. Raybould, H.E. and Lloyd, K.C., Integration of postprandial function in the proximal gastrointestinal tract. Role of CCK and sensory pathways, *Ann. NY Acad. Sci.*, 713 (1994) 143-156.
97. Rehfeld, J.F., Gastrointestinal hormones. In: *Gastrointestinal Physiology III* edited by Crane, R.K., Baltimore University Park Press, (1979) 291-321.
98. Rehfeld, J.F., Goltermann, N.R., Immunochemical evidence of cholecystokinin and tetrapeptides in hog brain, *J. Neurochem.*, 32 (1979) 1339-1341.
99. Rehfeld, J.F., Holst, J.J. et al., The molecular nature of vascularly released cholecystokinin from the isolated perfused porcine duodenum, *Regul Pept.*, 3 (1) (1982) 15-28.
100. Rehfeld, J.F., Larsson, L.I. et al., Neural regulation of pancreatic hormone secretion by the C-terminal tetrapeptide of cholecystokinin, *Nature*, 284 (1980) 33-38.
101. Reidelberger, R.D., Varge, G. et al., Effects of selective cholecystokinin antagonists L364,718 and L365,260 on food intake in rats, *Peptides*, 12 (1991) 1215-1221.
102. Rinaman, L., Hoffman, G.E. et al., Cholecystokinin activates catecholaminergic neurons in the caudal medulla that innervate the paraventricular nucleus of the hypothalamus in rats, *J. Comp. Neurol.*, 360 (1995) 246-256.
103. Robberecht, P.M., Deschondt-Lanckman, M. et al., Demonstration of biological activity of brain gastrin-like peptide material in the human: its relationship with the COOH-terminal octapeptide of cholecystokinin, *Proc. Natl. Acad. Sci. USA*, 75 (1978) 524-528.

104. Rogers, R.C. and Hermann, G.E., Hypothalamic paraventricular nucleus stimulation-induced gastric acid secretion and bradycardia suppressed by oxytocin antagonist, *Peptides*, 7 (1986) 695-700.
105. Saito, A., Sankaran, H. et al., Cholecystokinin receptors in the brain: characterization and distribution, *Science*, 208 (1980) 1155-1156.
106. Sakaguchi, T., Ohtake, M., Inhibition of gastric motility induced by activation of the hypothalamic paraventricular nucleus, *Brain Res.*, 335 (1985) 365-367.
107. Saper, C.B., Loewy, A.D. et al., Direct hypothalamo autonomic connections, *Brain Res.*, 117 (1976) 305-312.
108. Sawchenko, P.E. and Swanson, L.W., Immunohistochemical identification of neurons in the paraventricular nucleus of the hypothalamus that project to the medulla or to the spinal cord in the rat, *J. Comp. Neurol.*, 205 (1982) 260-272.
109. Schmidt, W.E., Creutzfeldt, W. et al., Role of CCK in regulation of pancreaticobiliary functions and GI motility in humans: effects of loxiglumide, *Am. J. Physiol.*, 26 (1991) G197-G206.
110. Schultzberg, M., Hokfelt, T. et al., Distribution of peptide- and catecholamine-containing neurons in the gastrointestinal tract of rat and guinea-pig: immunohistochemical studies with antisera to substance P, vasoactive intestinal polypeptide, enkephalins, somatostatin, gastrin/cholecystokinin, neuropeptid Y and dopamine-beta-hydroxylase, *Neuroscience*, (1980) 689-744.
111. Schwartz, G.J., Tougas, G. et al., Integration of vagal afferent responses to duodenal loads and exogenous CCK in rats, *Peptides*, 16 (1995) 707-711.
112. Snape, W.J.Jr., Carlson, G.M. et al., Human colonic myoelectric activity in response to prostigmin and the gastrointestinal hormones, *Dig. Dis. Sci.*, 22 (1977) 881-887.
113. Smith, G.P., Jerome, C. et al., Abdominal vagotomy blocks the satiety effect of cholecystokinin in the rat, *Science*, 213 (1981) 1036-1037.

114. Smith, J.R., LaHann, T.R. et al., Thyreotropin-releasing hormone: stimulation of colonic activity following intracerebroventricular administration, *Science*, 196 (1977) 660-662.
115. Swanson, L.W. and Kuypers, H.G., The paraventricular nucleus of the hypothalamus: cytoarchitectonic subdivisions and organizations of projections to the pituitary, dorsal vagal complex and spinal cord as demonstrated by retrograde fluorescence double-labeling methods, *J. Comp. Neurol.*, 194 (1980) 555-570.
116. Swanson, I.W. and Sawchenko, P.E., Hypothalamic integration: organization of the paraventricular and supraoptic nuclei, *Ann. Rev. Neurosci.*, 6 (1983) 269-324.
117. Szurszewski, J.H., A migrating electric complex of canine small intestine, *A. J. Physiol.*, 217 (1969) 1757-1763.
118. Tache, Y., Yang, H. et al., Brain regulation of gastric acid secretion by neuropeptides. Edited by Tache, Y.; Wingate, D.L., CRC. Press, Boca. Raton, (1991) 169-186.
119. Talman, W.T., Andreasen, S. et al., Cholecystokinin in nucleus tractus solitarius modulates tonic and phasic gastric pressure, *Am. J. Physiol.*, 30 (1991) R217-R222.
120. Valenzuela, J.E., Effect of intestinal hormones and peptides on intragastric pressure in dogs, *Gastroenterology*, 71 (1976) 766-769.
121. Vanderhaeghen, J.J., Signeau, H.T. et al., New peptide in the vertebrate CNS reacting with antigastrin antibodies, *Nature*, 257 (1975) 604-605.
122. Varga, G., Balint, A. et al., Involvement of endogenous CCK and CCK 1 receptors in colonic motor function, *British J. of Pharmacology*, 141 (2004) 1275-1284.
123. Verbalis, J.G., McCann, M.J. et al., Oxytocin secretion in response to cholecystokinin and food: differentiation of nausea from satiety, *Science*, 232 (1986) 1417-1419.
124. Verbalis, J.G., McHale, C.M. et al., Oxytocin and vasopressin secretion in response to stimuli producing learned taste aversions in rats, *Behav. Neurosci.*, 100 (1986) 466-475.

125. Verbalis, J.G., Rinaman, L. et al., Functional neural connections between the hypothalamus and the dorsal vagal complex. In: Gastrointestinal Tract and Endocrine System, edited by Singer, M.V.; Ziegler, R.; Rohr, G., Dordrecht: Kluver Academic Publishers, (1995) 3-16.
126. Wang, L., Barachina, M.D. et al., Synergistic interaction between CCK and leptin to regulate food intake, *Regulatory peptides*, 92 (2000) 79-85.
127. West, S.D., Mercer, D.W. et al., Cholecystokinin-induced gastroprotection: A review of current protective mechanisms, *Digestive Diseases and Sciences*, 49 (2004) 361-369.
128. Wiley, J., Owyang, C., Participation of serotonin and substance p in the action of cholecystokinin on colonic motility, *Am. J. Physiol.*, 252 (1987) G431-G435.
129. Willis, G.L., Hansky, J. et al., Ventricular, paraventricular and circumventricular structures involved in peptide-induced satiety, *Regulatory peptides*, 9 (1984) 87-99.

Anhang**Tabellarischer Lebenslauf**

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Ehrenwörtliche Erklärung

Ich, Annika Sonntag, erkläre, dass ich die vorgelegte Dissertationsschrift mit dem Thema „Untersuchungen über Wirkung und Wirkungsmechanismen von Cholecystokinin im Paraventrikulären Nucleus des Hypothalamus auf die gastrointestinale Motilität“ selbst verfasst und keine anderen als die angegebenen Quellen und Hilfsmittelertation benutzt, ohne die (unzulässige) Hilfe Dritter verfasst und auch in Teilen keine Kopien anderer Arbeiten dargestellt habe.

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