CHAPTER 15

Osmoregulation

David Murphy,1,2 Jose Antunes-Rodrigues,3 and Harold Gainer4

1 School of Clinical Sciences, University of Bristol, Bristol, UK
2 Department of Physiology, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia
3 Department of Physiology, Faculty of Medicine of Ribeirão Preto, University of São Paulo, Ribeirão Preto, SP, Brazil
4 Molecular Neuroscience Section, Laboratory of Neurochemistry, National Institutes of Health, Bethesda, Maryland, USA

References


Brownstein, M.J., Russell, J.T. and Gainer, H. (1980) Synthesis, transport, and release of posterior pituitary hormones. Science, 207, 373–378. [The classic description of the mechanisms by which AVP and OXT are made and released by HNS neurons. Pulse labeling with radioactive amino acid was used to show that the two hormones and their respective neurophysin carrier proteins are synthesized as parts of separate precursor proteins. These precursors are then processed into smaller, biologically active molecules while they are being transported along the axon towards the posterior pituitary.]


Greenwood, M., Bordieri, L., Greenwood, M.P., et al. (2014) Transcription factor CREB3L1 regulates vasopressin gene expression in the rat hypothalamus. Journal of Neuroscience, 34, 3810–3820. [Transcriptome analysis identified transcription factor CREB3L1 as being upregulated in the SON and PVN by dehydration. This study demonstrated that CREB1 can regulate the AVP gene through a direct interaction with sequences in the proximal promoter.]

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Richard, D. and Bourque, C.W. (1995) Synaptic control of rat supraoptic neurons during osmotic stimulation of the organum vasculosum lamina terminalis in vitro. *Journal of Physiology*, **489**, 567–577. [In rat hypothalamic explants, inhibitory and excitatory pathways originating from OVLT neurons are tonically active under norm-osmotic conditions. However, osmotically evoked changes in MNC firing are selectively mediated through changes in the intensity of the excitatory component of inputs from the OVLT.]


Ueta, Y., Fujihara, H., Serino, R., et al. (2005) Transgenic expression of enhanced green fluorescent protein enables direct visualization for physiological studies of vasopressin neurons and isolated nerve terminals of the rat. *Endocrinology*, **146**, 406–413. [*Description of transgenic rats in which eGFP expression is directed to AVP neurons enabling their facile fluorescent detection. This has revolutionized electrophysiological studies on AVP neurons.*]


