Distribution of Urocortin 2 and Urocortin 3 in Rat Brain

Asuka Mano-Otagiri and Tamotsu Shibasaki
Department of Physiology, Nippon Medical School

Recently, urocortin (Ucn) 2 and Ucn 3 showing high sequence homologies to corticotropin-releasing factor (CRF) have been discovered as members of CRF peptide family. Both peptides bind specifically to CRF receptor. We generated polyclonal antisera against Ucn 2 and Ucn 3 to define distribution patterns of these peptides in rat central nervous system. Many Ucn 2 neurons are present in both paravascular and magnocellular divisions of the paraventricular nucleus (PVN) and a few Ucn 2 neurons exist in the supraoptic nucleus (SON) of the hypothalamus. Ucn 3 neurons exist in the rostral perifornical area between the fornix and the PVN, with a few cells found in the magnocellular division of the PVN. In the extra-hypothalamic region, Ucn 3 neurons are found in the dorsal division of the medial nucleus of the amygdala. These distribution patterns suggest distinct functions of Ucn 2 and Ucn 3 in the brain.

References

Correspondence to Asuka Mano-Otagiri, Department of Physiology, Nippon Medical School, 1–1–5 Sendagi, Bunkyo-ku, Tokyo 113–8603, Japan
E-mail: asuka@nms.ac.jp
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**Fig. 1** Ucn 2 neurons in the hypothalamus

Ucn 2 neurons are mainly distributed in the parvocellular and magnocellular divisions in the PVN (A). A small number of Ucn 2 neurons are present in the SON (B). OX: optic chiasm, BV: blood vessel, 3V: third ventricle, PVN: paraventricular nucleus, SON: supraoptic nucleus

**Fig. 2** Ucn 3 neurons in the brain

Ucn 3 neurons are mainly distributed in the rostral perifornical area between the fornix and the PVN, with a few cells found in the magnocellular division of the PVN (A). In the extra- hypothalamic region, Ucn 3 neurons are found in the dorsal division of the medial nucleus of the amygdala (B). Opt: optic tract, 3V: third ventricle, MEA: medial nucleus of the amygdala