

Supplementary Material Files

Hormonal axes in *Drosophila*: regulation of hormone release and multiplicity of actions

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Supplementary Table 1. Neuropeptides detected by mass spectrometry of dissected glands in *Bombyx mori* and *Locusta migratoria*.

Species	CC/CA Peptide	Stage	Reference
<i>Bombyx mori</i>	AKH	Larva	(Liu et al., 2012)
	AstA	Larva	
	AstC	Larva	
	Allatotropin	Larva	
	BRFa ¹	Larva	
	BMS	Larva	
	CAPA-PVK	Larva	
	CCAP	Larva	
	CRZ	Larva	
	NPLP1	Larva	
	Orcokinin	Larva	
	PTST (MIP) ¹	Larva	
	SGNP (PRLa)	Larva	
	sNPF ¹	Larva	
	SK	Larva	
	TK ¹	Larva	
<i>Locusta migratoria</i>	PK1-7 ²	Adult	(Clynen and Schoofs, 2009)
	Lom-AG-MT-2 ²	Adult	
	FLRFa (MS) ²	Adult	
	sNPF ²	Adult	
	AstA4,5,9,10 ²	Adult	
	NPF ³	Adult	
	CRZ ³	Adult	
	LomHrTH (ACP) ³	Adult	
	AKH I-III ³	Adult	
<i>Carausius morosus</i>	AKH	Adult	(Liessem et al., 2018)
	CRZ	Adult	
	MIP7,9,11	Adult	
	PK1,7,9	Adult	
	MS	Adult	
	NPLP-1	Adult	
	sNPF	Adult	
	PKL1,2 ⁴	Adult	
	RFLa ⁴	Adult	
HanSolin ⁴	Adult		

Notes

Peptide acronyms as in Table 1

¹ These peptides might act as release regulating factors (BRFa, *Bombyx* RFamide; PTST, AstB and MIP; others as in Table 1)

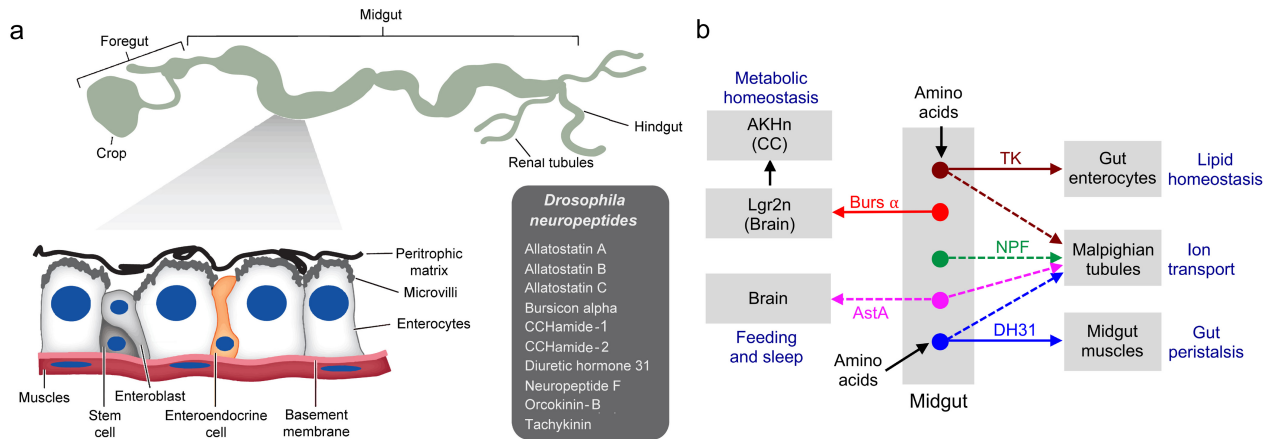
² In both CC and CA

³ Only in CC

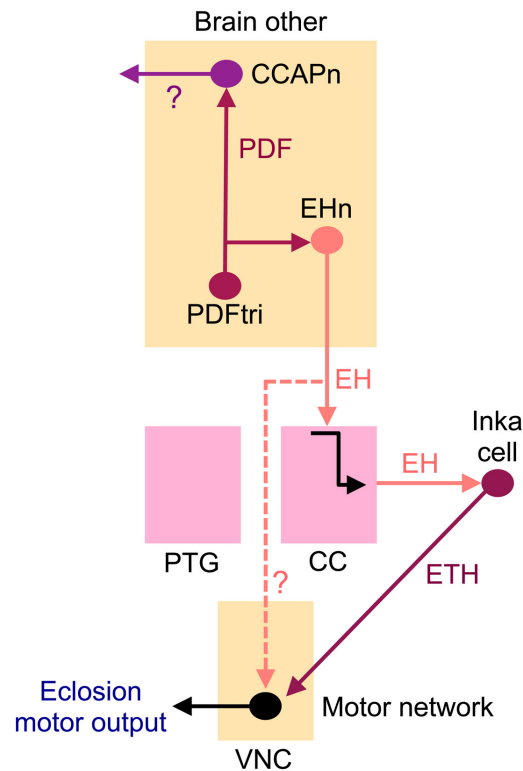
⁴ Novel peptides, first detected in *C. morosus*



S. Fig. 1. Brain insulin producing cells (IPCs) reconstructed from serial electron microscopic sections of a *Drosophila* hemibrain. To the left side view of one IPC, to the right a cluster of IPCs in similar view. Cb, cell body; d1 and d2 two sets of presumed dendrites. This figure was compiled from data in neuPRINT (<https://neuprint.janelia.org>) (Clements et al., 2020; Xu et al., 2020; Zheng et al., 2018).



S. Fig. 2. Neuropeptides in enteroendocrine cells (EECs) of the intestine. **a.** A scheme depicting the organization of the digestive tract in adult *Drosophila*. The *Drosophila* gut spans across the entire thorax and abdomen and is comprised of the foregut, midgut, Malpighian (renal) tubules and hindgut. The lower part illustrates that the midgut is composed of five different cell types: muscle cells, stem cells, enteroblasts, enterocytes and enteroendocrine cells. Ten neuropeptides/peptide hormones expressed in the adult *Drosophila* enteroendocrine cells are listed in the box. This figure is from (Nässel and Zandawala, 2019), which was based on (Lemaitre and Miguel-Aliaga, 2013). **b.** Schematic depiction of signaling from EECs. Solid arrows indicate that experimental data is available for function, and dashed arrows depict hypothetical functions. See text for details, and references. AKHn, AKH producing cells in CC; Lgr2, bursicon receptor; other acronyms in Table 1.



S. Fig. 3. *Pigment-dispersing hormone (PDF) in tritocerebral neurons (PDFtri).* A set of PDFtri neurons contact CCAP- (CCAPn) and EH producing (EHn) neurons and may be part of a circuit regulating adult eclosion via Inka cells and a motor network in the VNC (Selcho et al., 2018). This scheme is based on anatomy (GRASP technique) only and experimental data is required to verify the circuit.

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