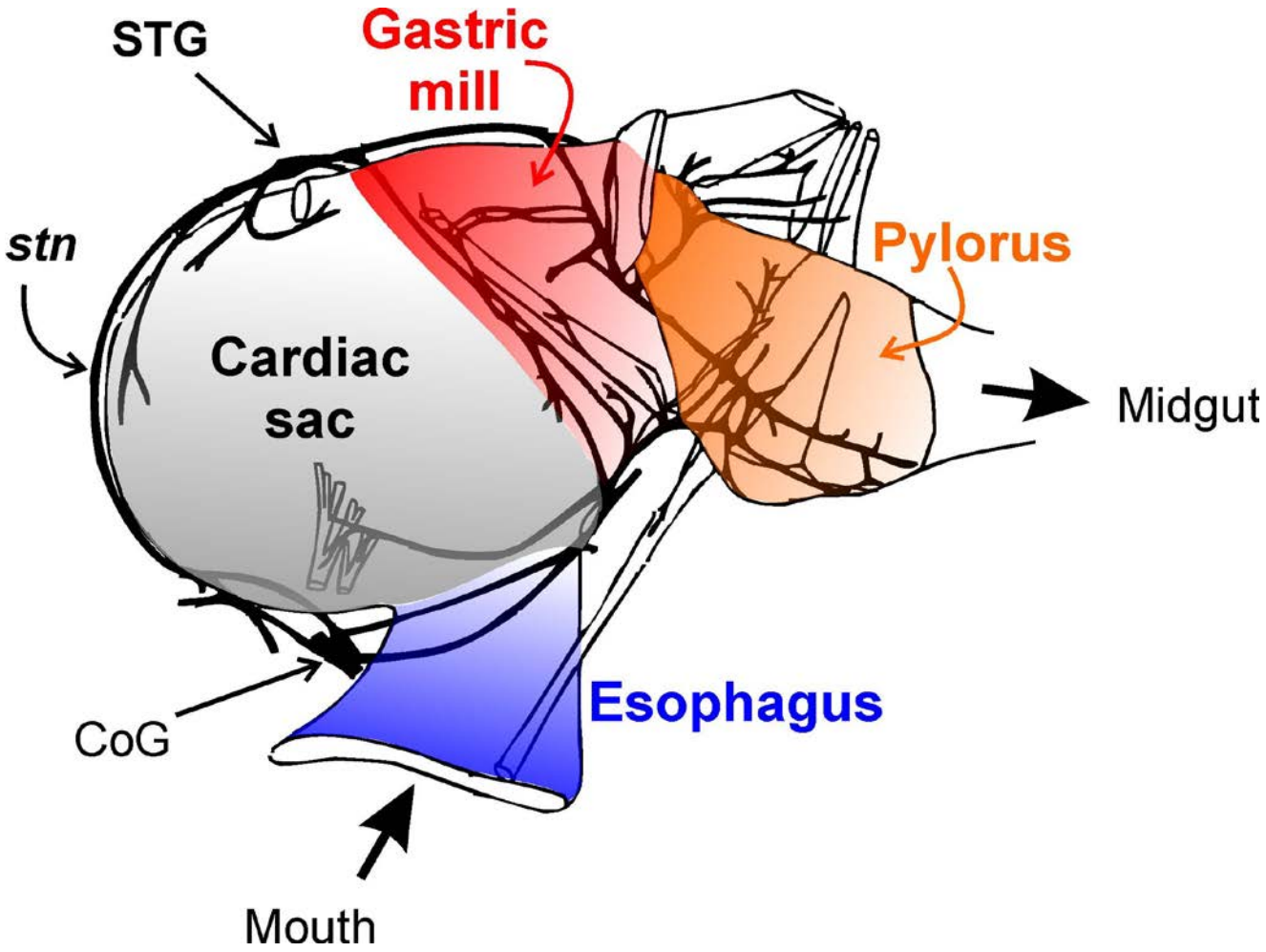
The

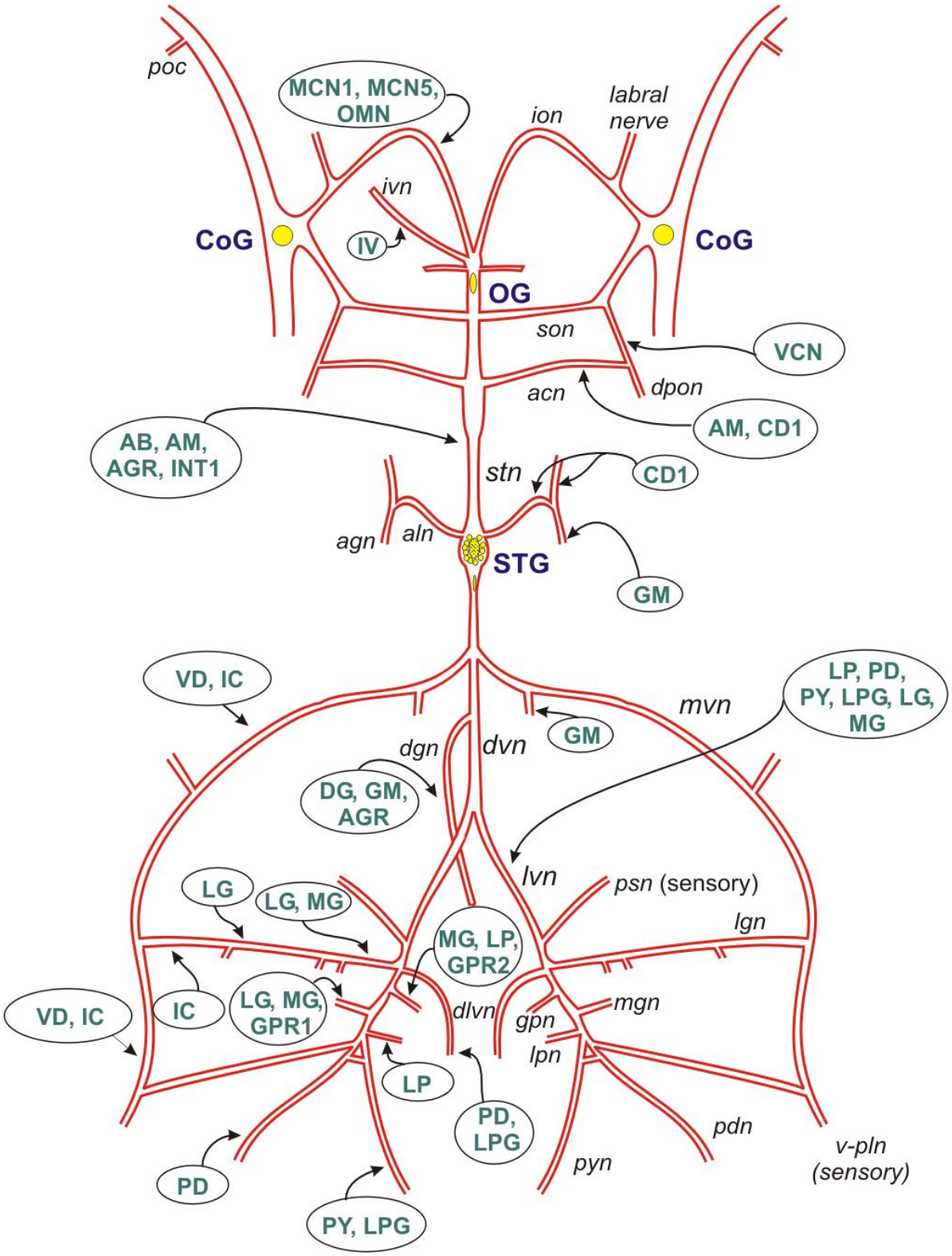
Cancer borealis

STG guide

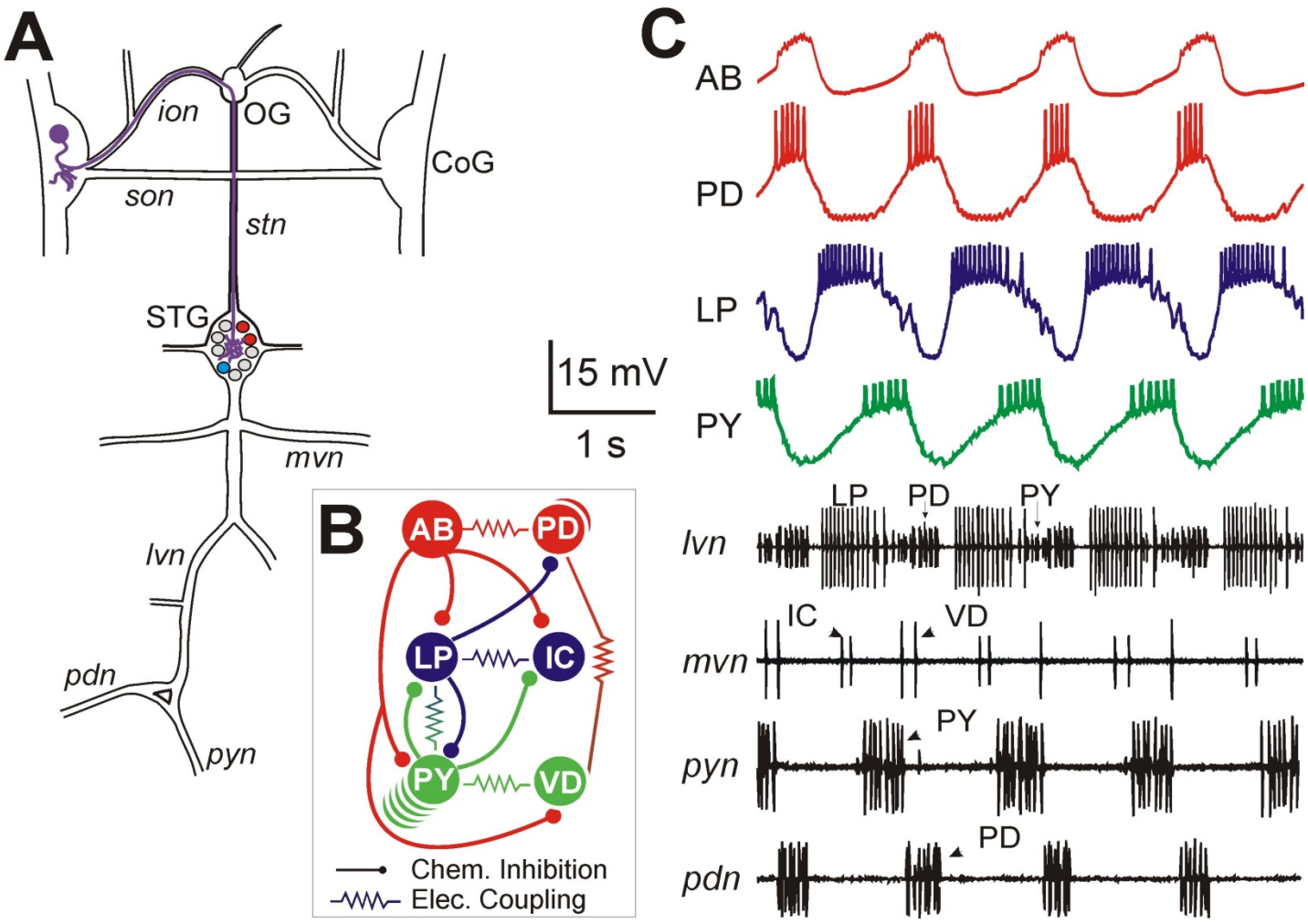
The foregut


STG
Gastric mill
stn
Pylorus
Cardiac sac
Midgut
Esophagus
CoG
Mouth

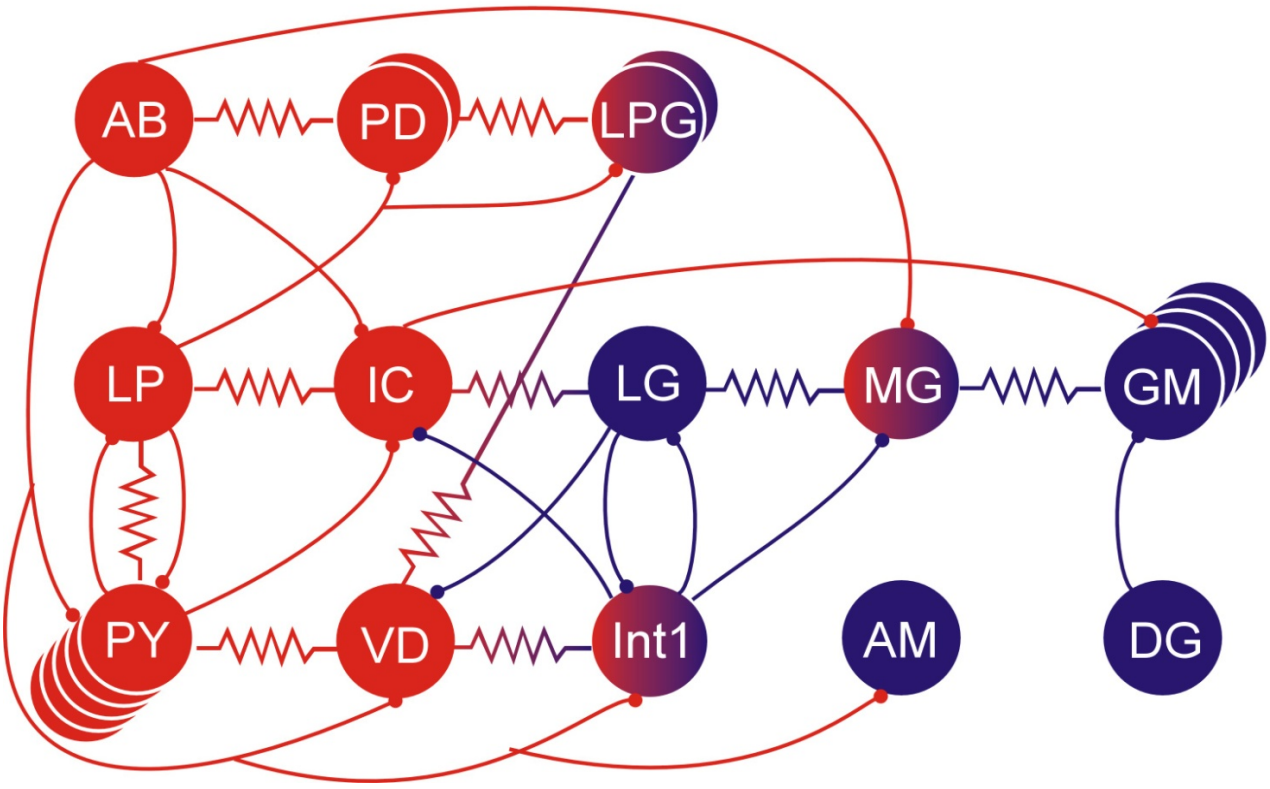
The *Cancer borealis* Stomatogastric Nervous System



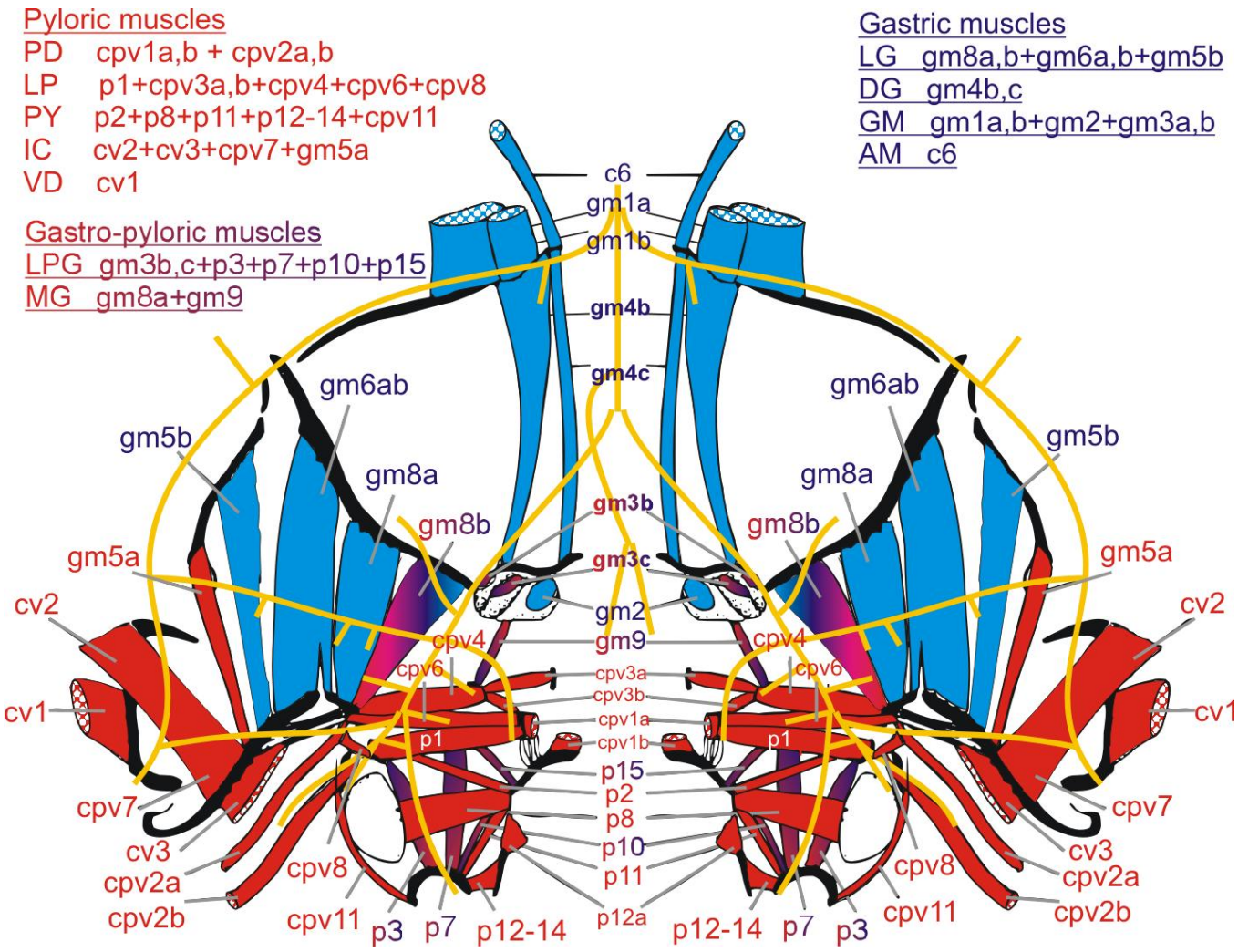
The pyloric rhythm



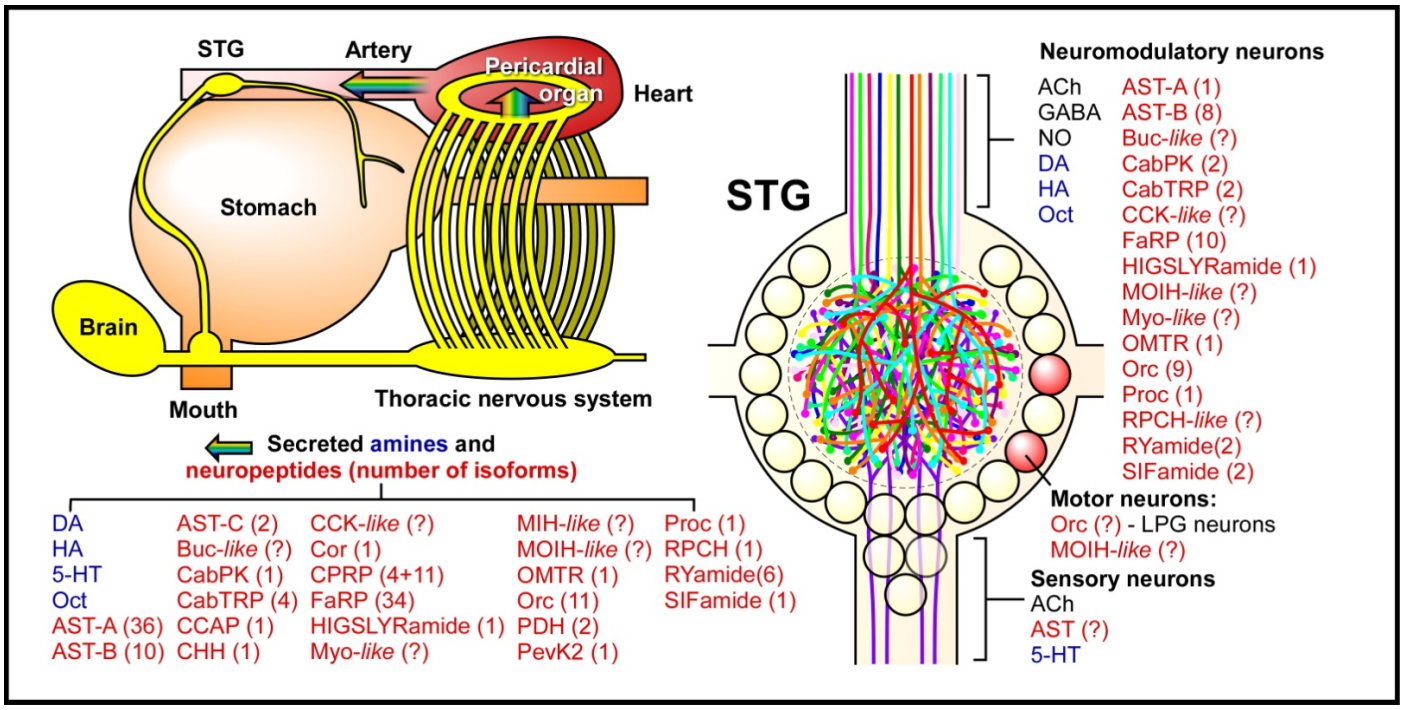
The *Cancer borealis* gastric and pyloric networks



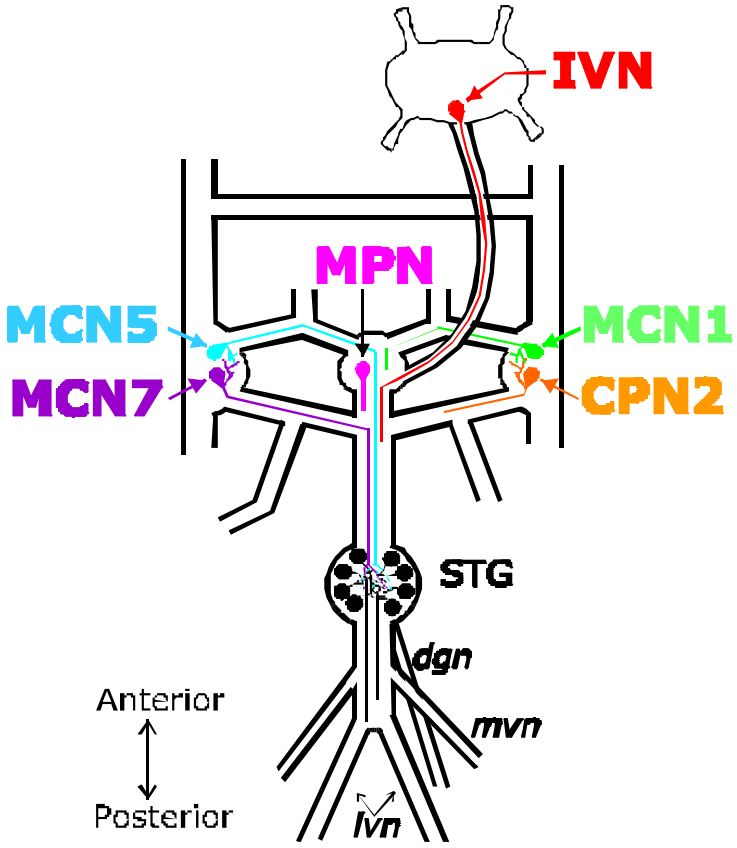
Pyloric and Gastric Mill muscles and innervation

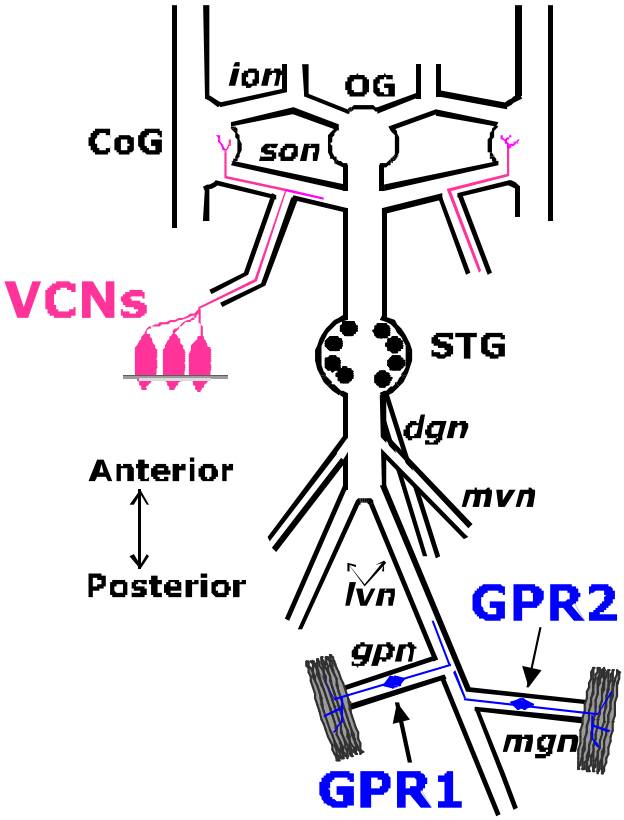


Neuromodulation in the STNS

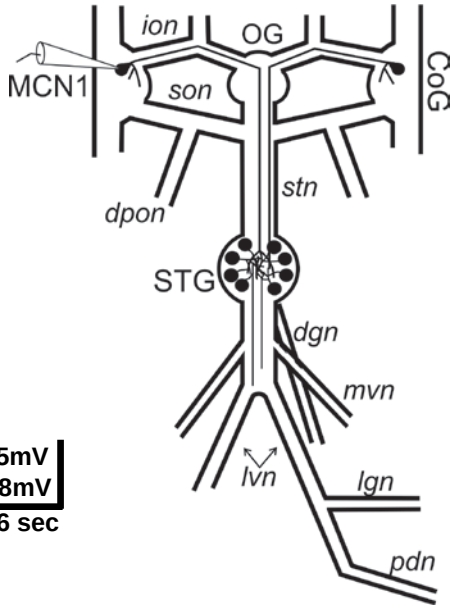


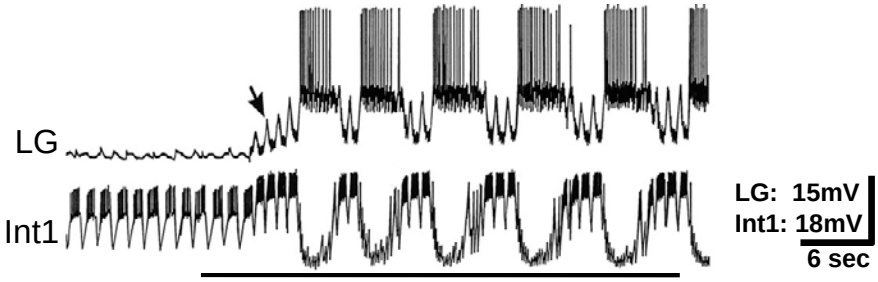
Some STNS Projection and sensory neurons



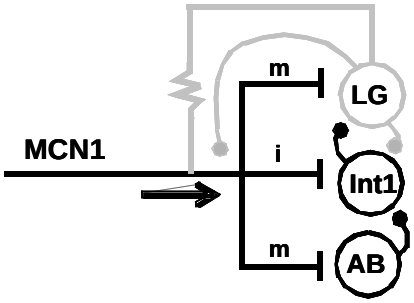


MCN1-elicited Gastric Mill Rhythm

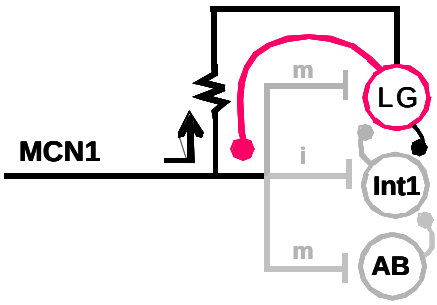




MCN1 Stim. (Tonic 15 Hz)



Retraction (Int1 Active)



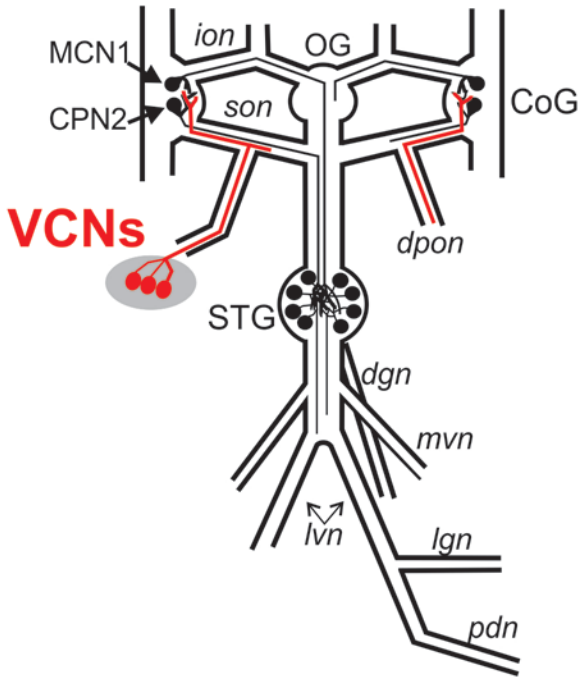
Protraction (LG Active)

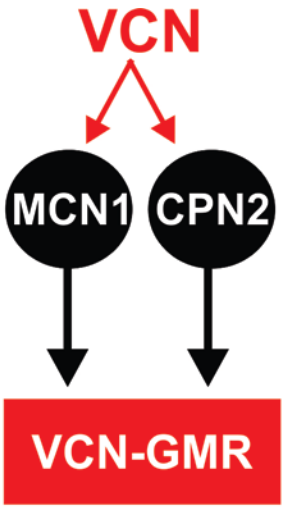
m=metabotropic
i=ionotropic

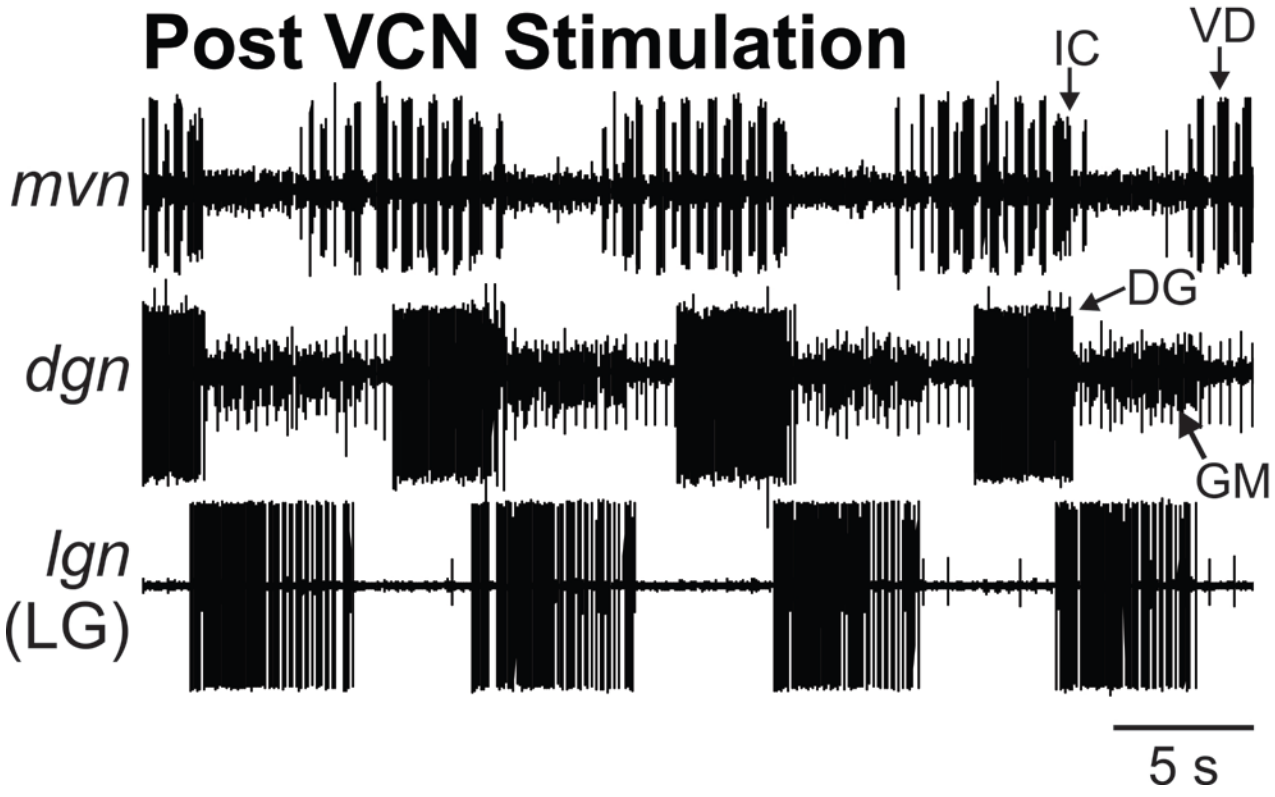
Chemical Inhibition

Chemical Excitation

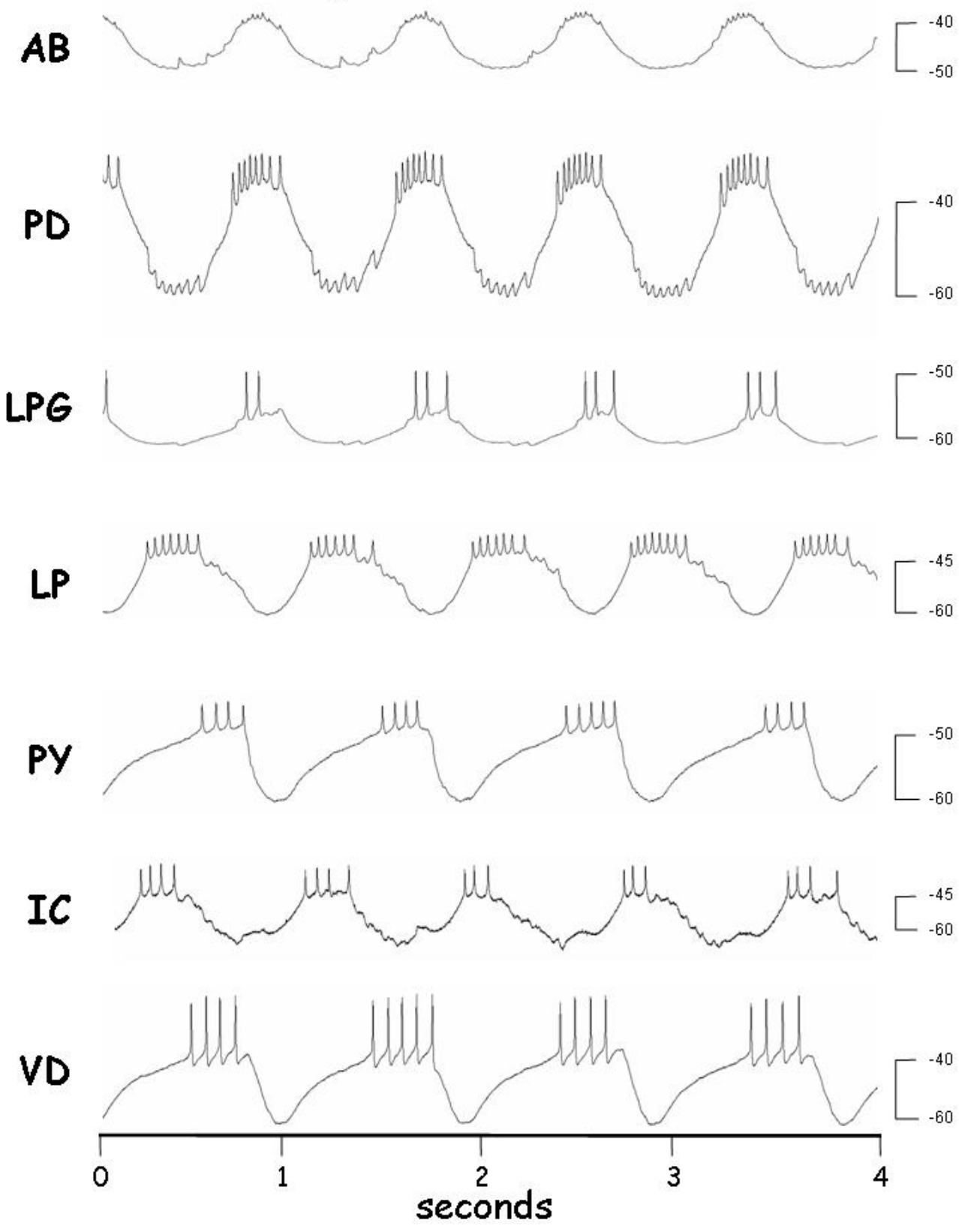
VCN-triggered Gastric Mill Rhythm



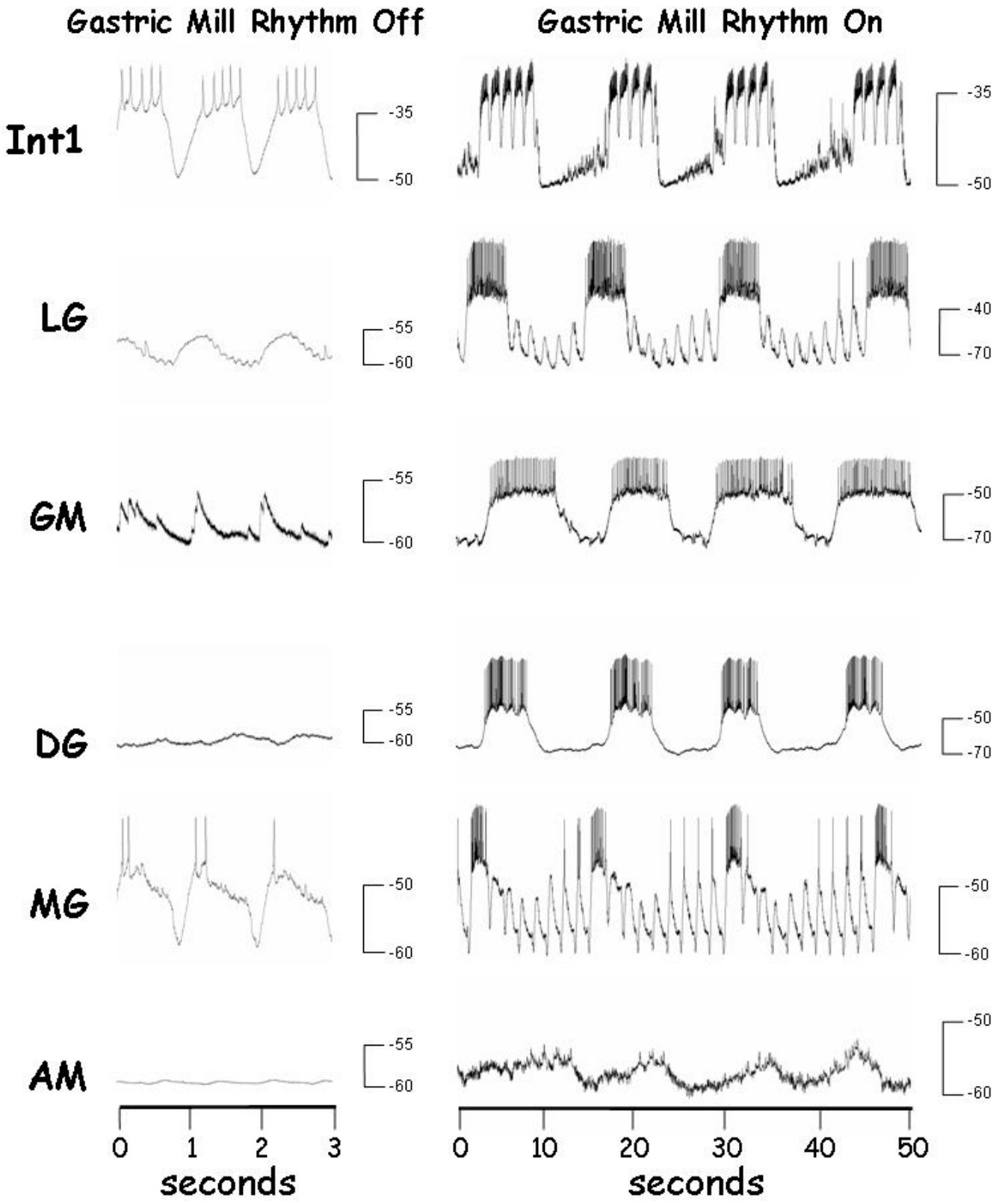




Pyloric Neurons



Gastric Mill Neurons

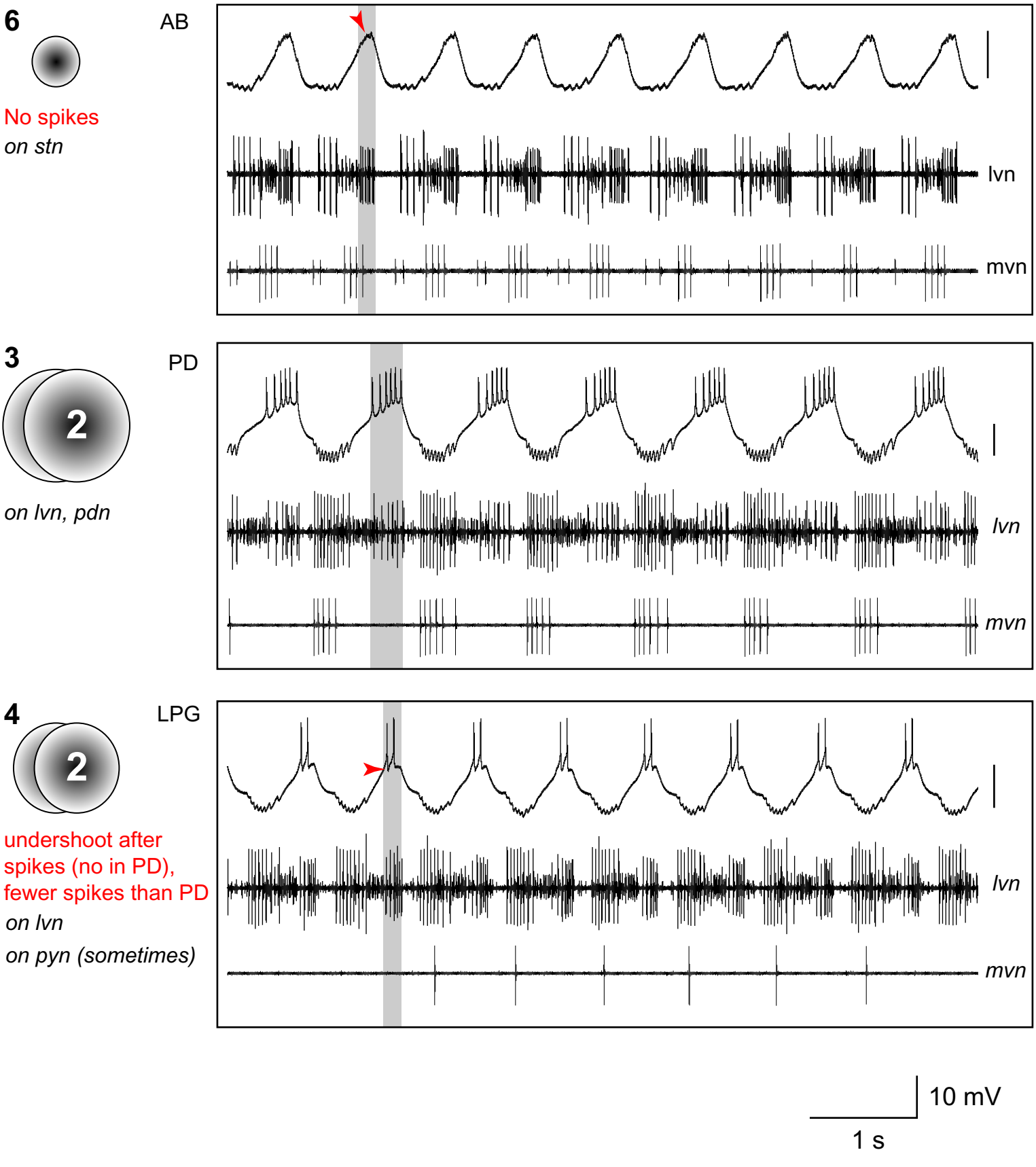


Cancer borealis

RECORDINGS OF PYLORIC AND GASTRIC CELLS DURING THE ONGOING PYLORIC RHYTHM

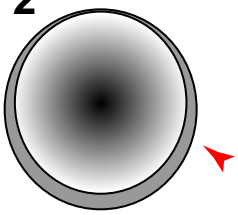
(NO GASTRIC RHYTHM)

PD-timed cells



LP-timed cells

2



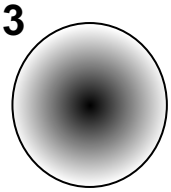
dark ring
on lvn, gpn, lpn

LP

lvn

mvn

3



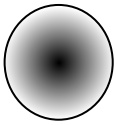
before LP, bump during trough, PY inhibition dominates, fewer spikes than LP
on mvn

IC

lvn

mvn

5



slightly before LP, PD inhibition dominates, fewer spikes than LP
on lvn, lgn

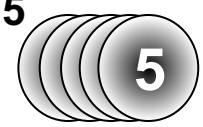
MG

lvn

mvn

PY-timed cells

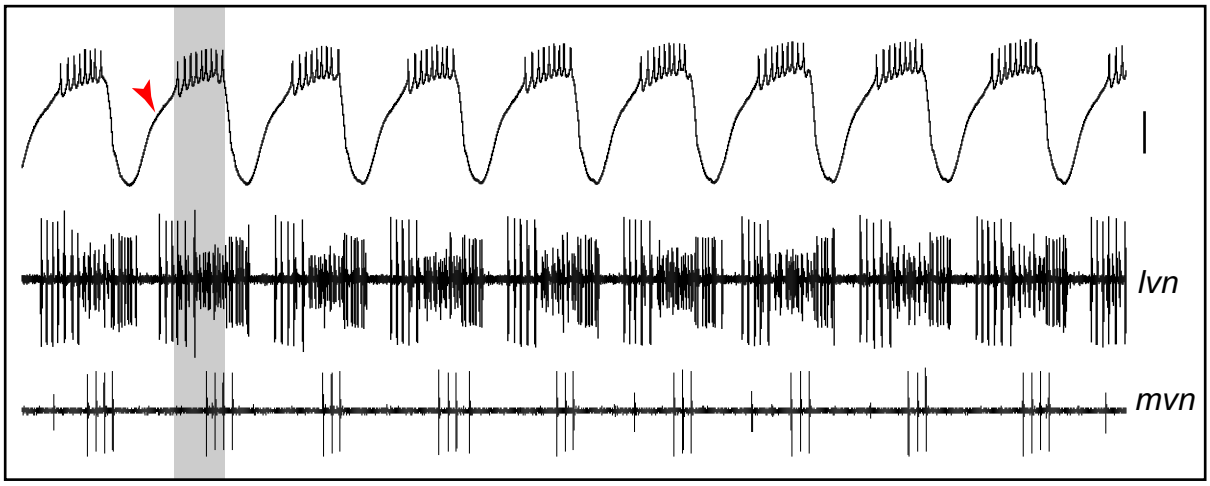
5



convex rebound

on lvn, pyn

PY



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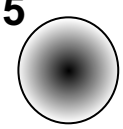
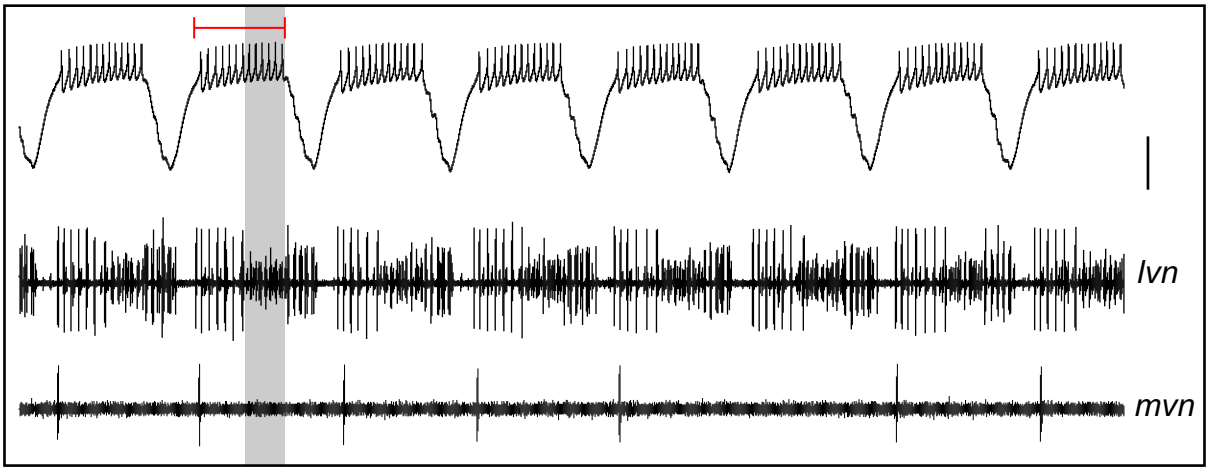


very long duty cycle

on stn

Int1



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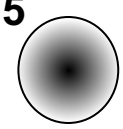
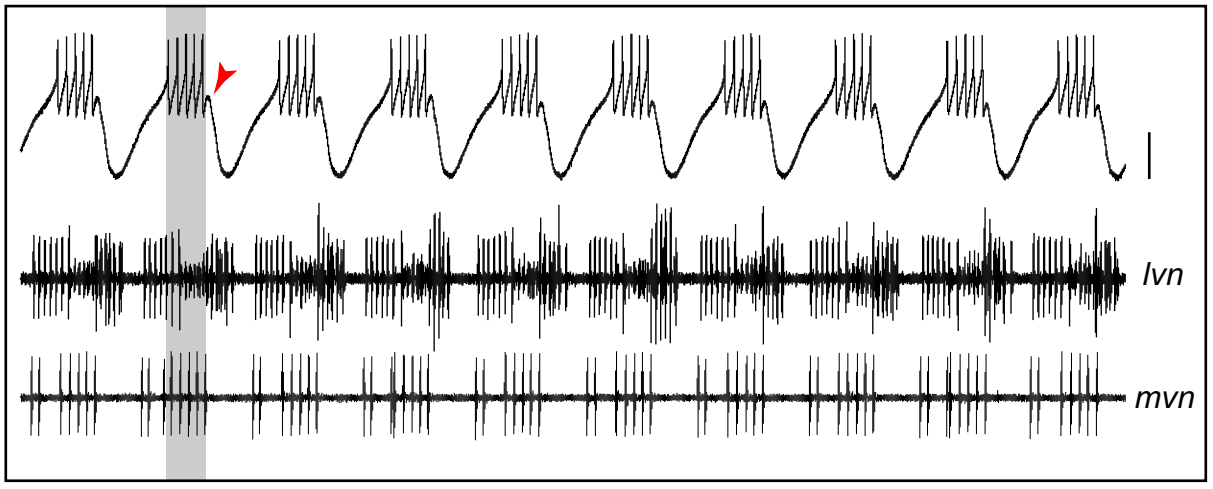


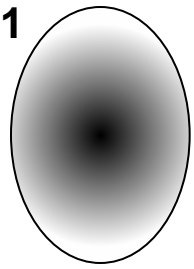
bump after last spike (failure-like), fewer spikes than PY

on mvn

VD

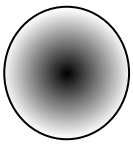


Pure Gastric Cells

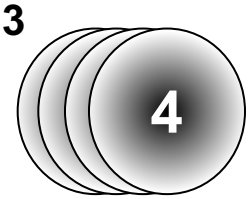


V-dept Proct PSPs, rarely spikes w/o gastric rhythm

on lvn, lgn

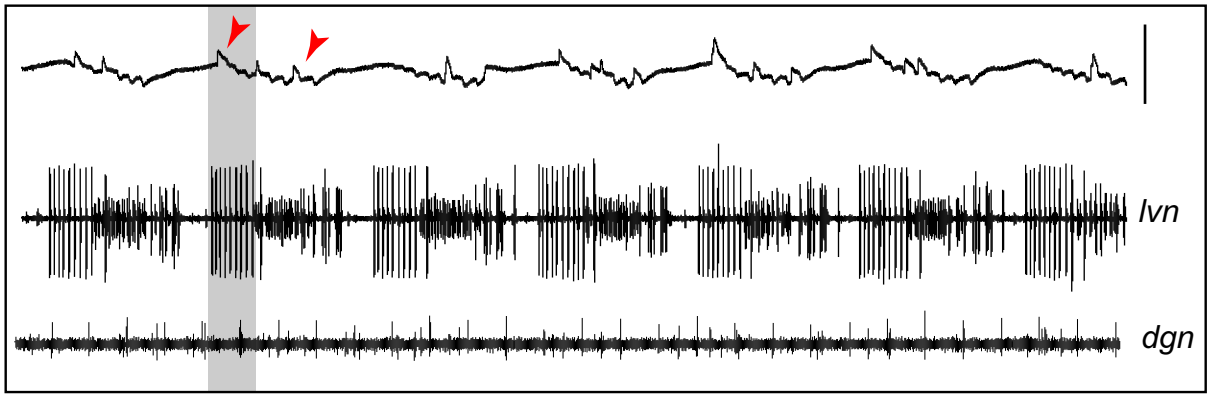


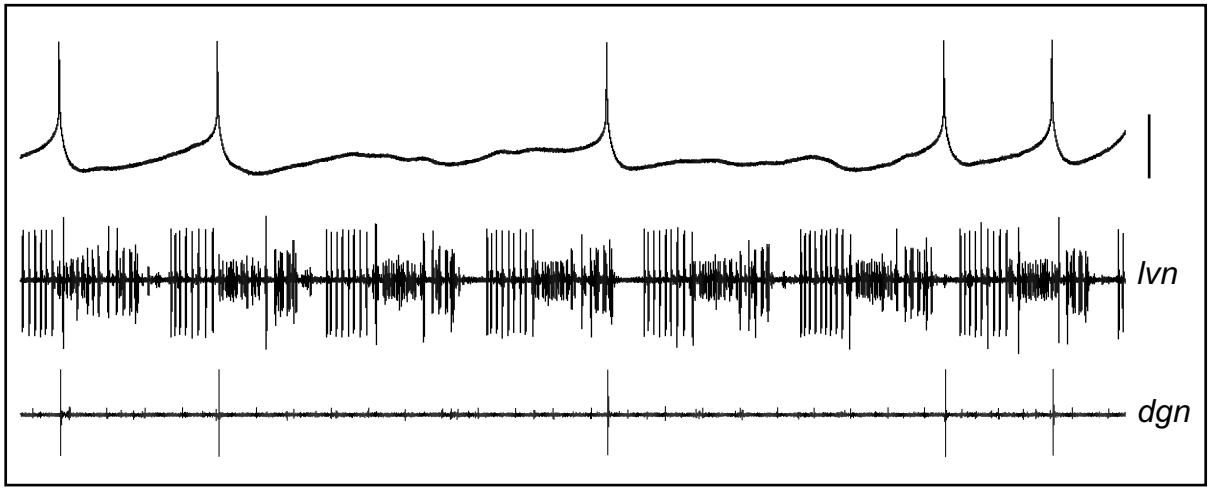
on dgn

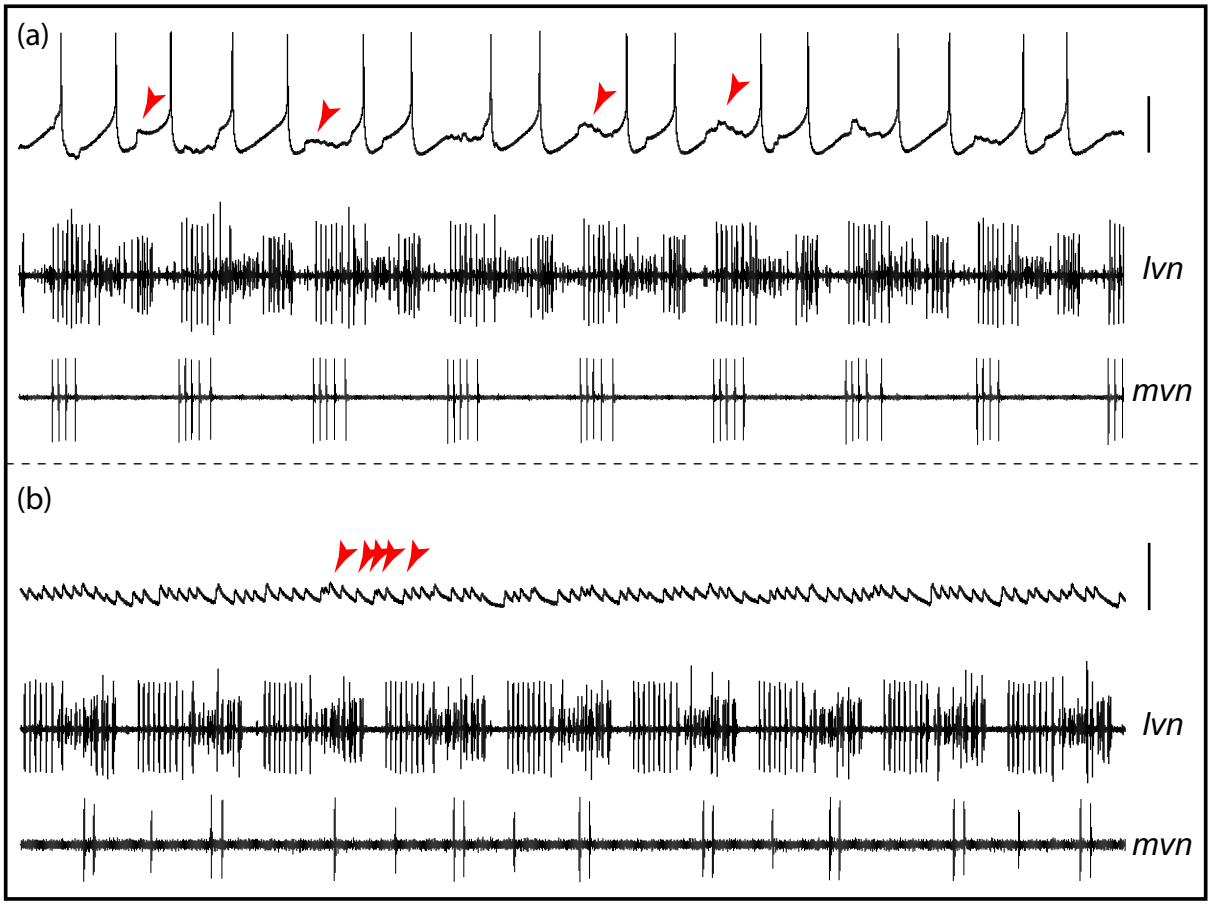


High frequency of PSPs not locked on pyloric cells

on dgn, lvn







10 mV

1 s