

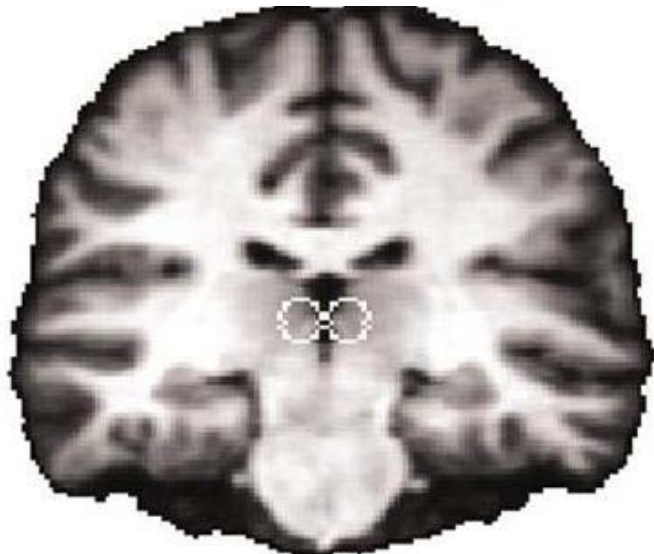
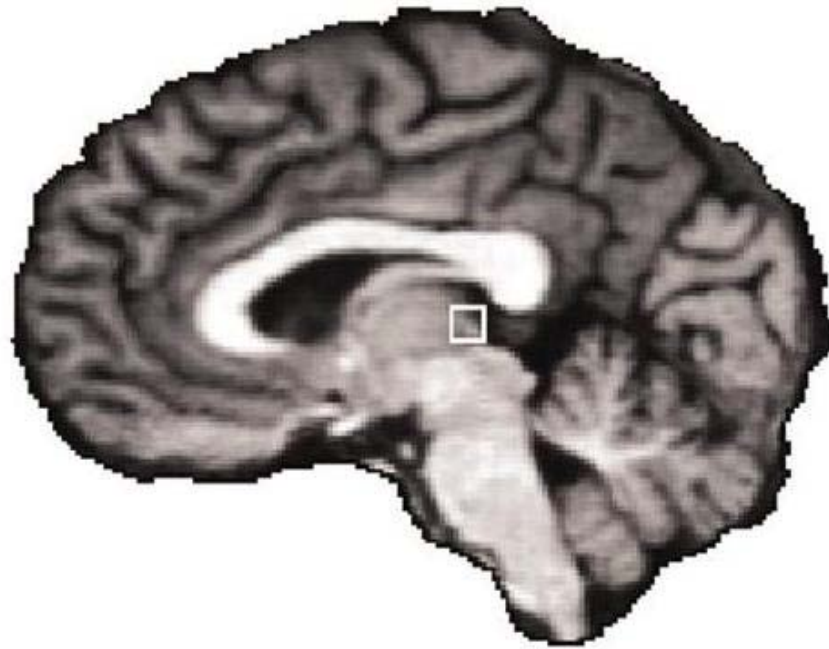
Representation of negative and positive motivational values in the monkey lateral habenula

Okihide Hikosaka

**Laboratory of Sensorimotor
Research**

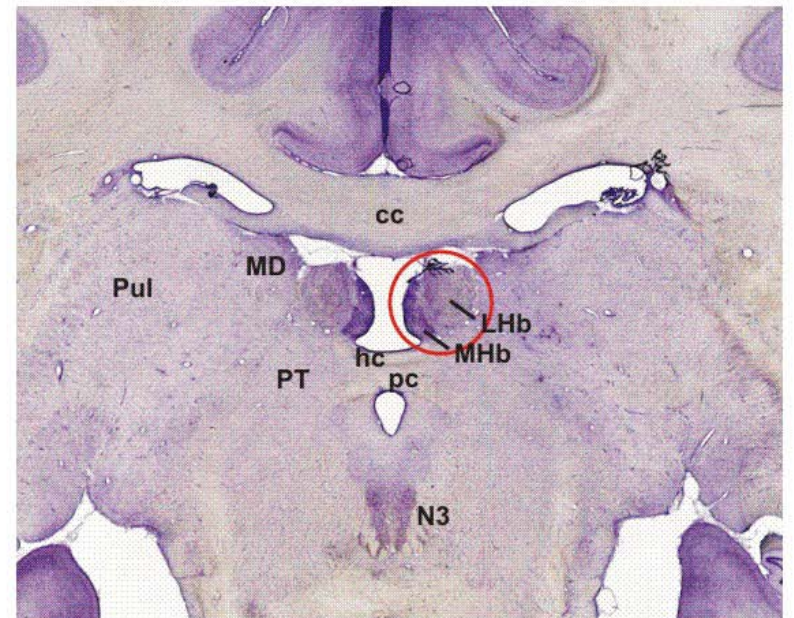
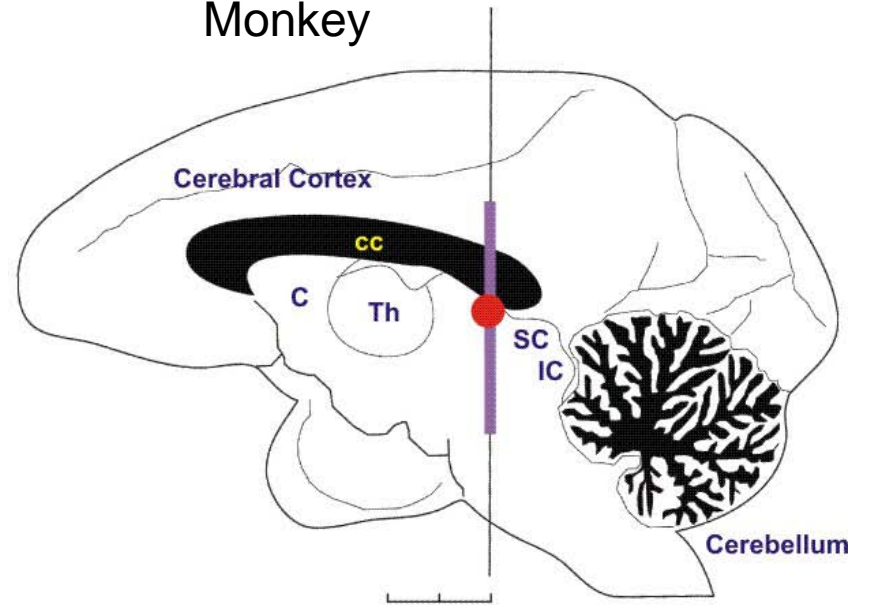
National Eye Institute, NIH

Human

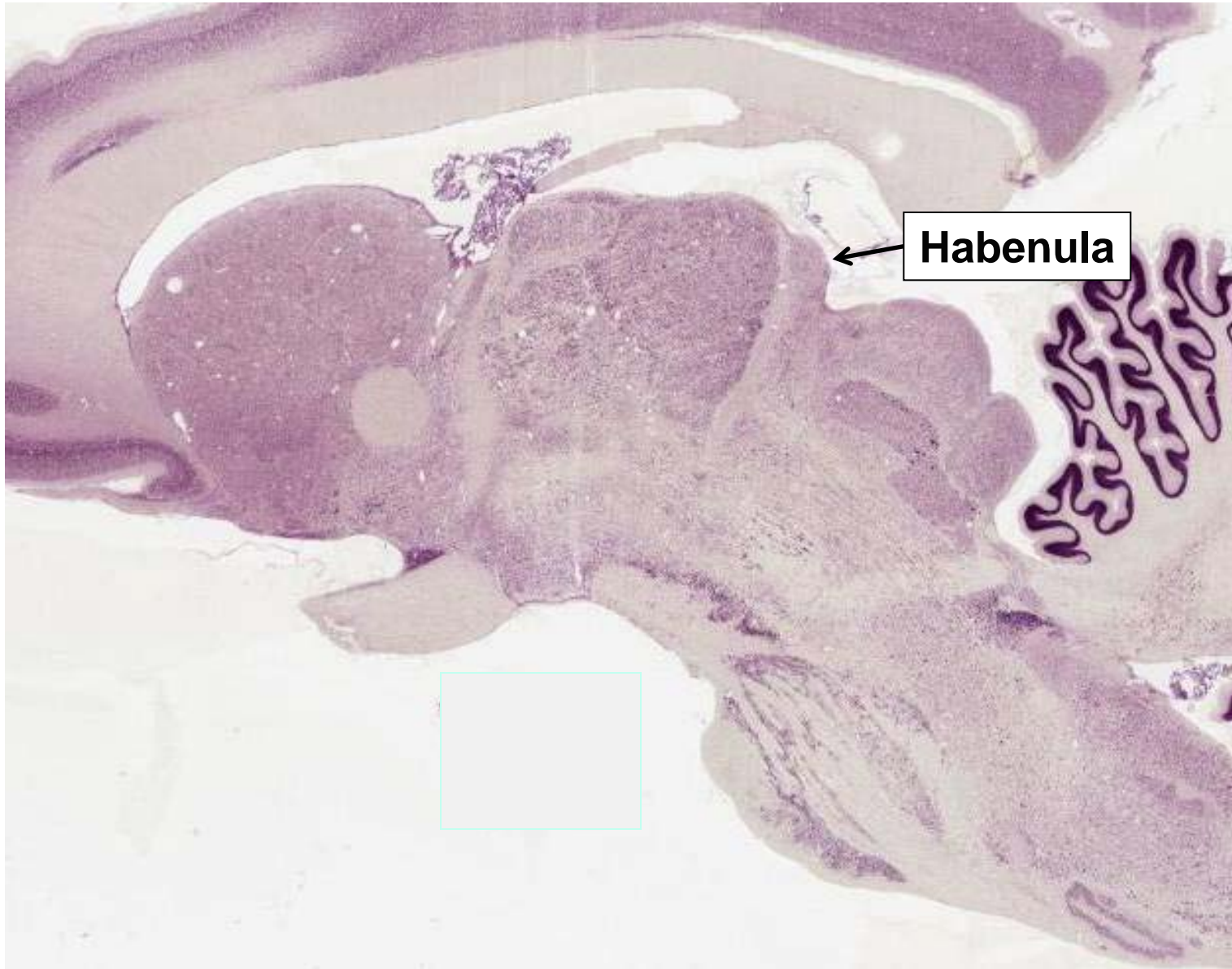


Ullsperger & von Cramon, 2003

Monkey



Hikosaka, 2007



parasagittal section of the macaque brain (<http://brainmaps.org/>)

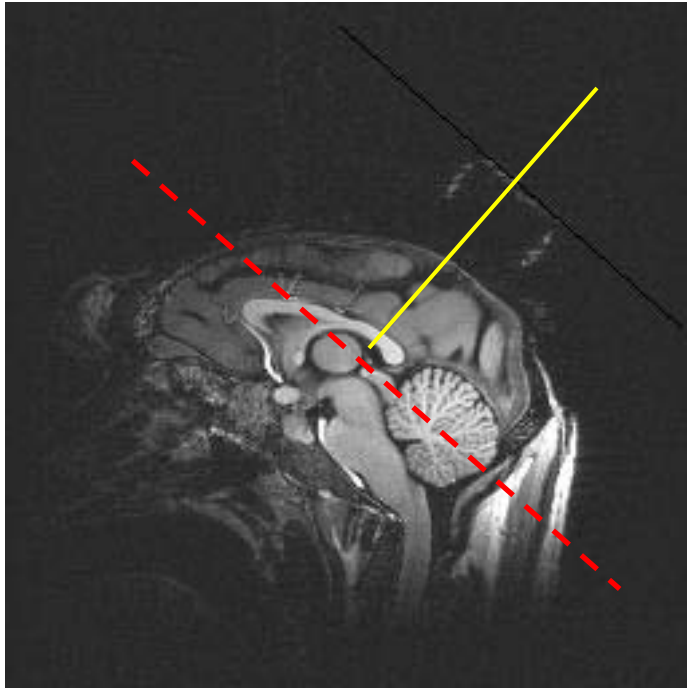
Habenula

Functions

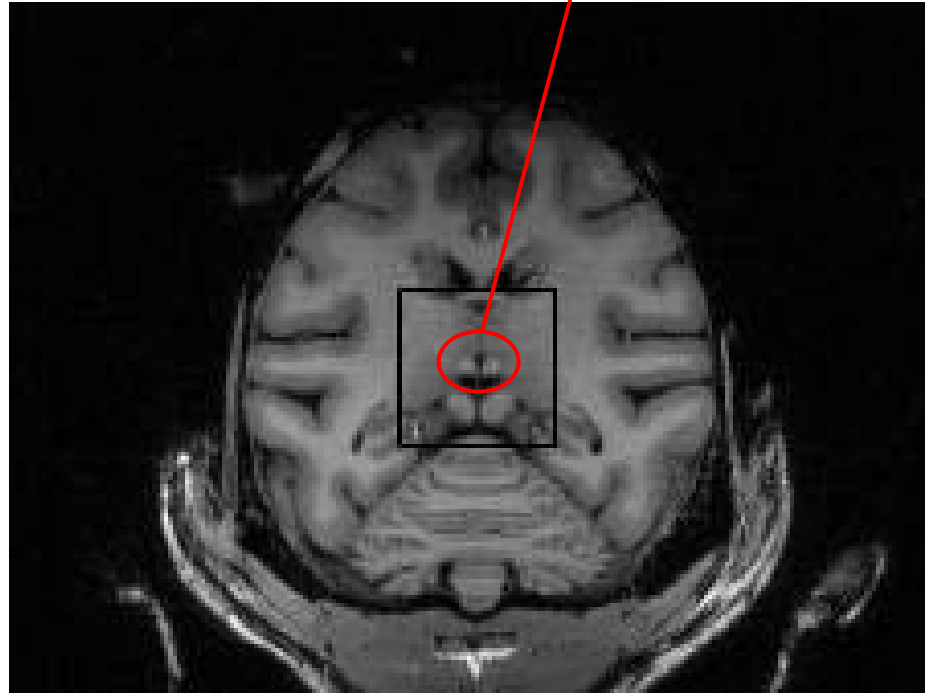
Response to stress
Response to pain
Avoidance learning
Error monitoring

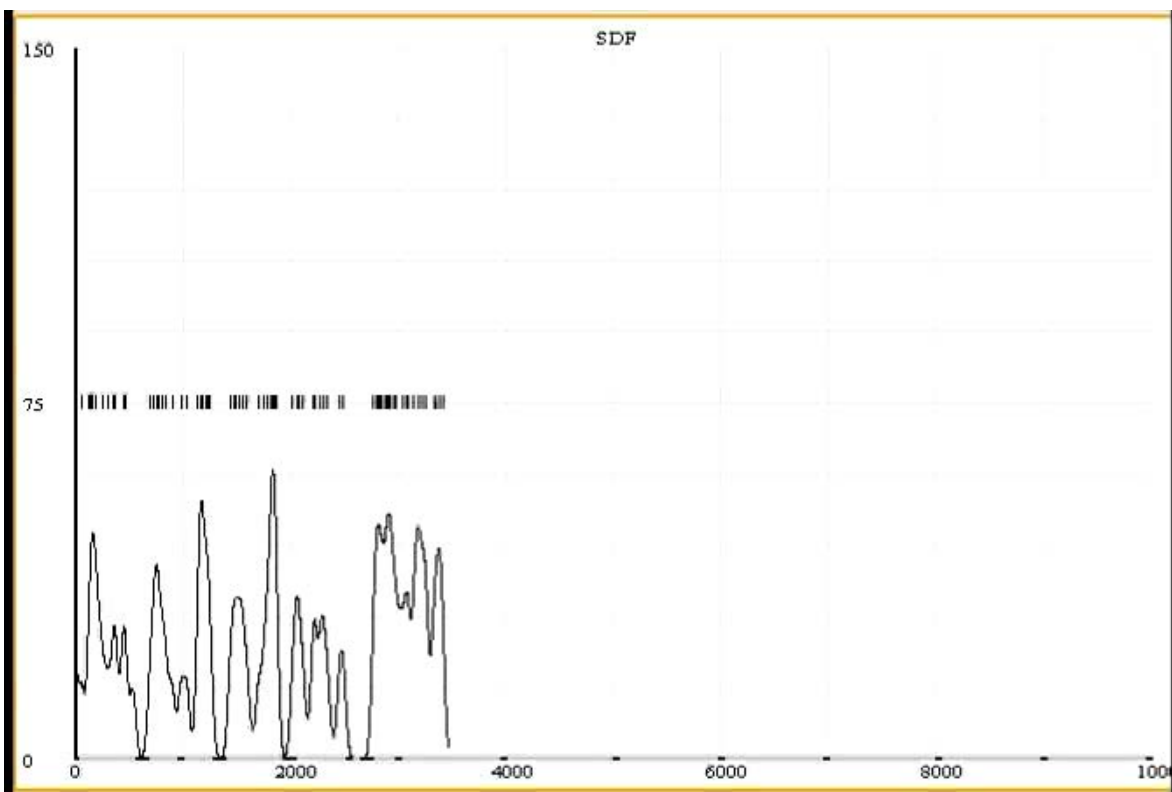
Dysfunctions

Major depression
Schizophrenia
Drug-induced psychosis

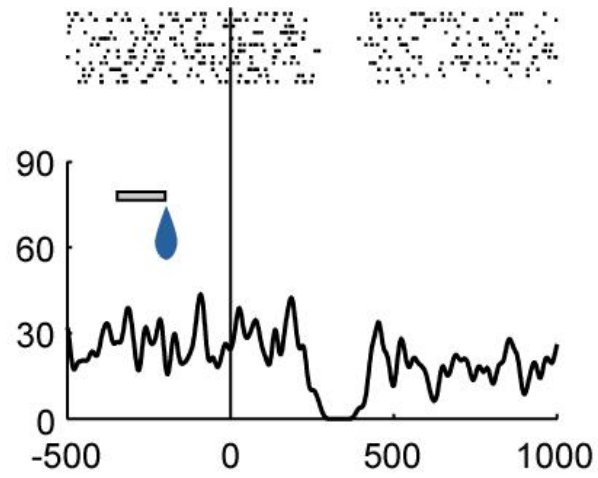


Habenula

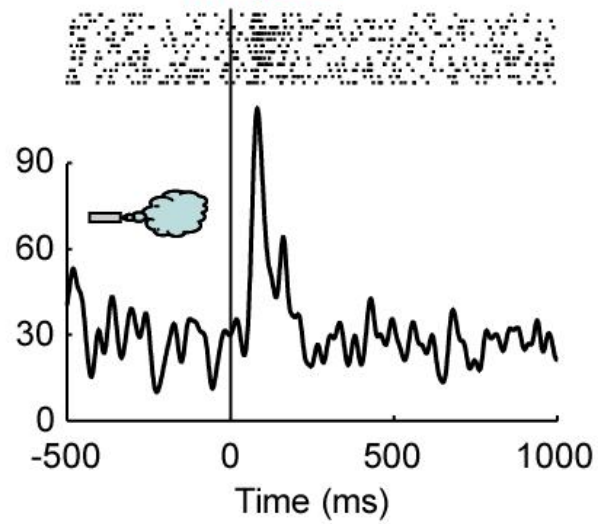




Juice

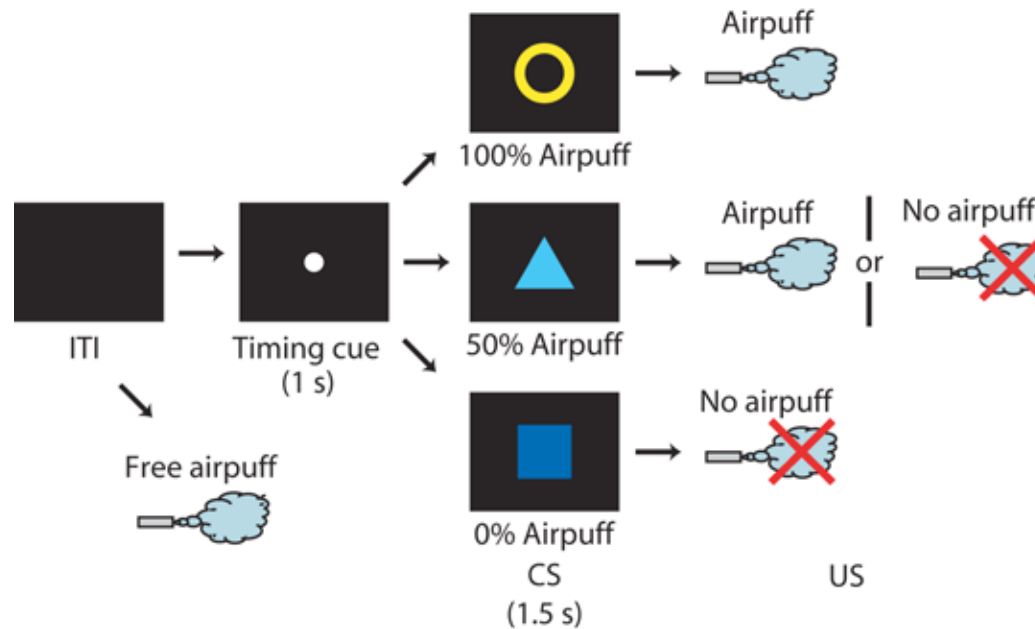
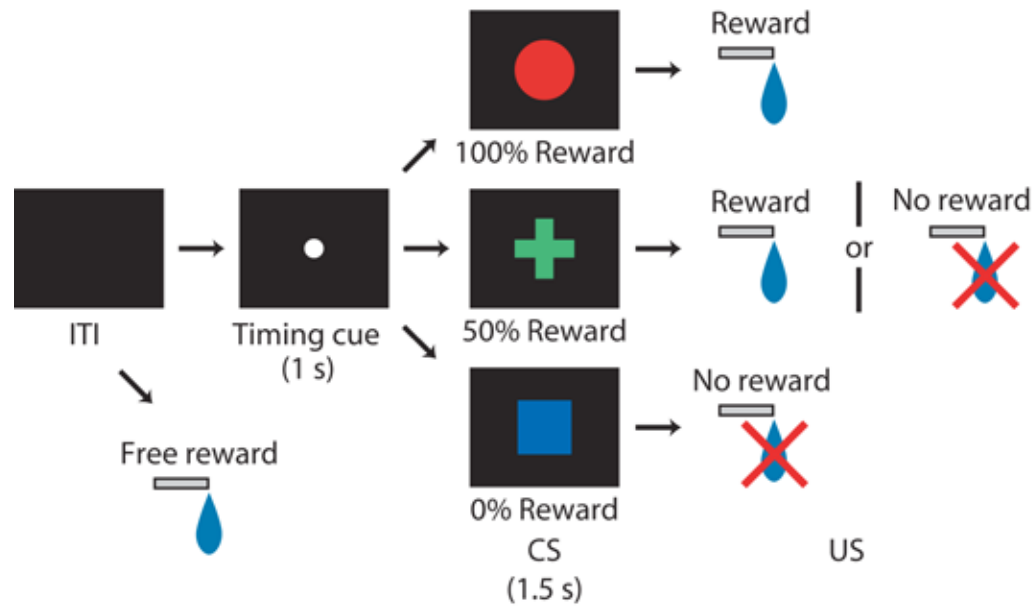


Airpuff

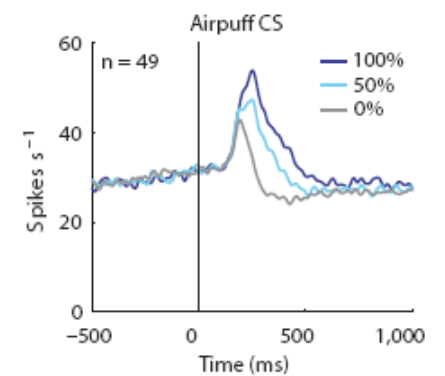
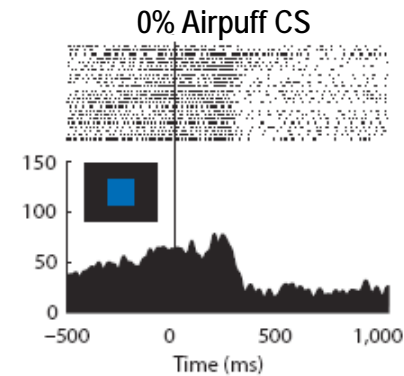
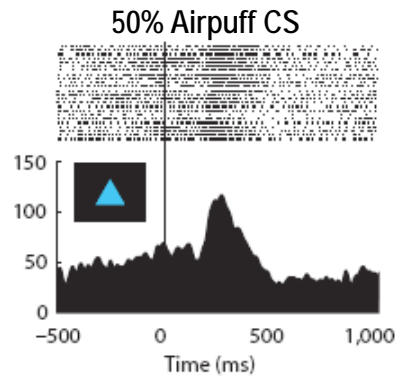
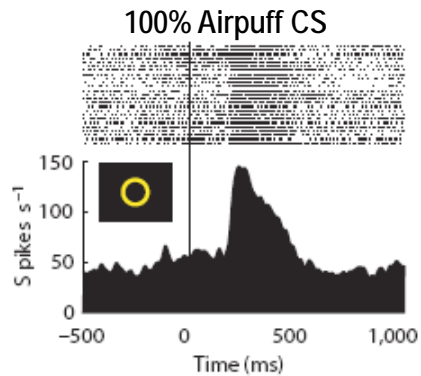
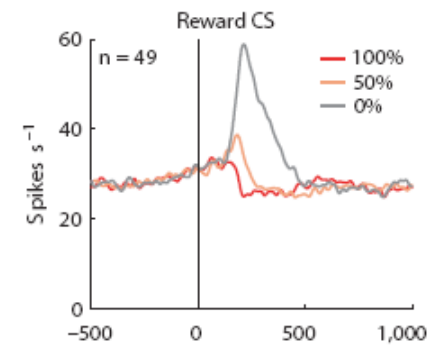
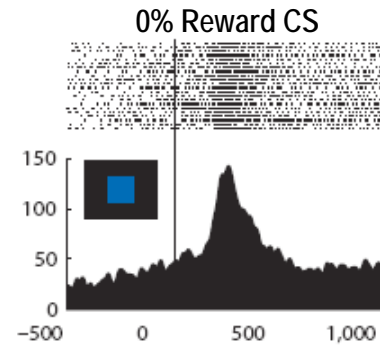
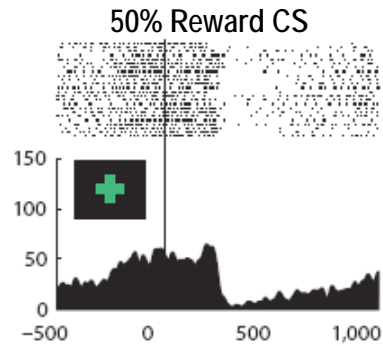
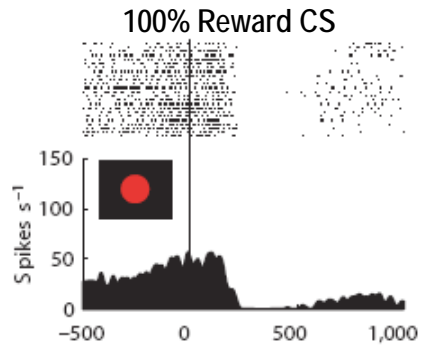




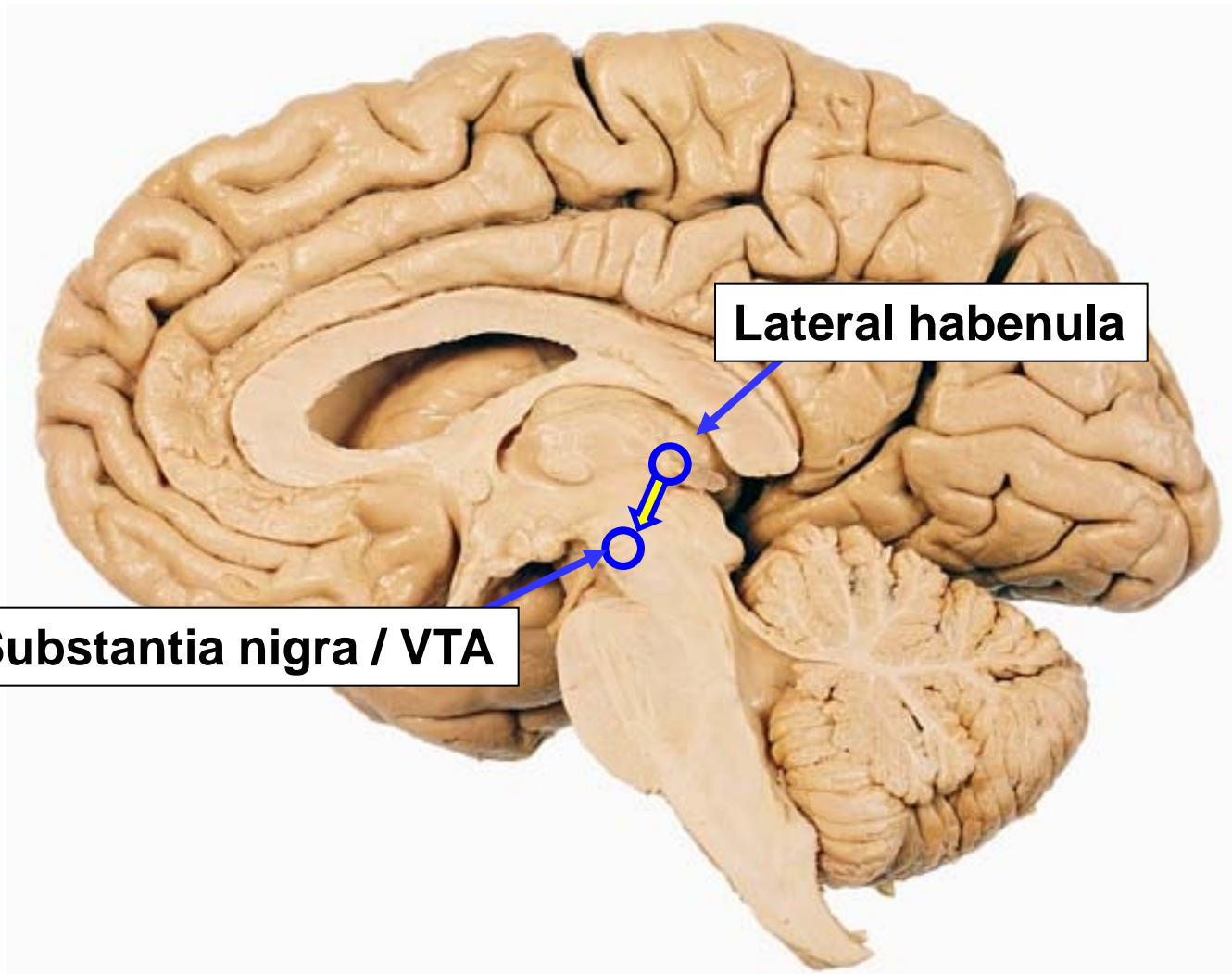
Masayuki Matsumoto



Lateral habenula neuron

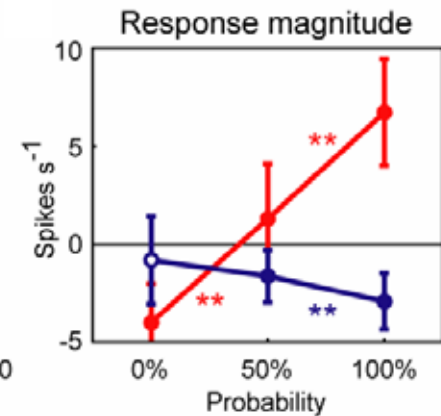
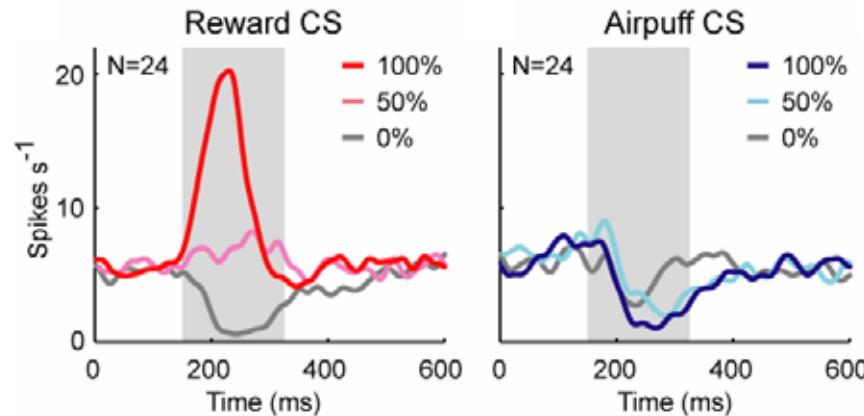
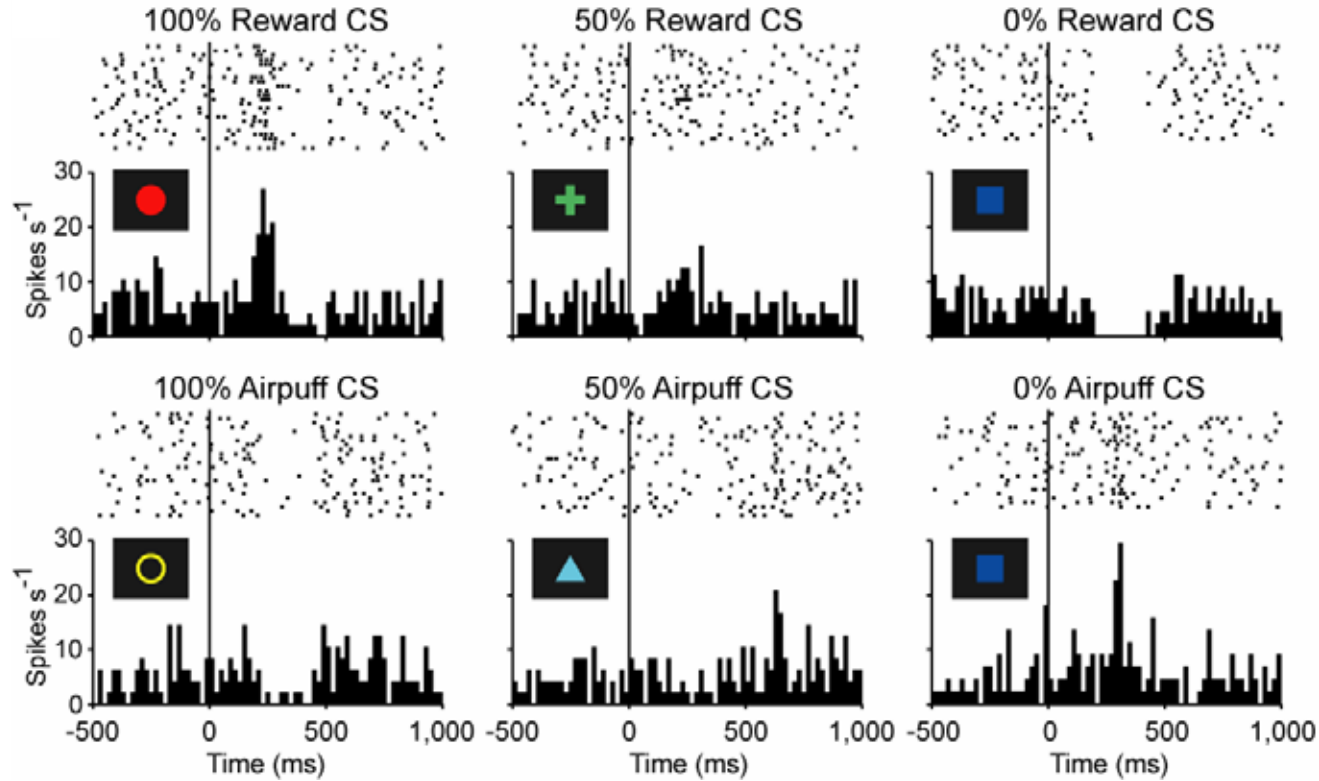


Lateral Habenula

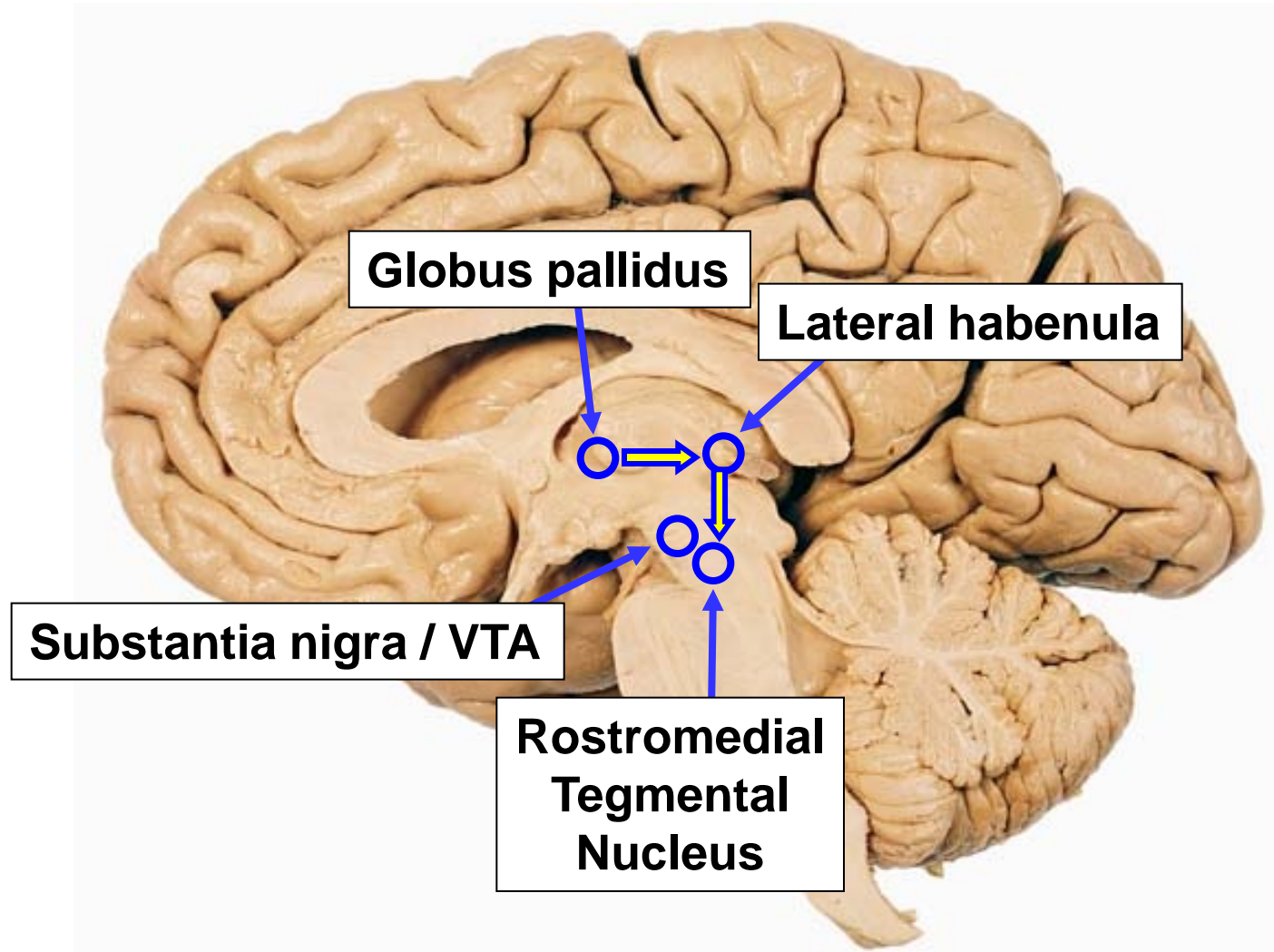


Dopamine neuron #1

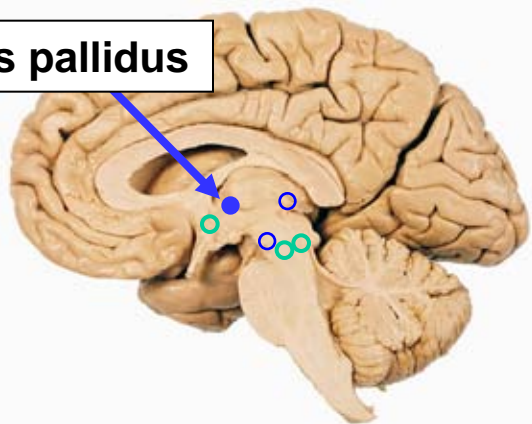
Value-coding



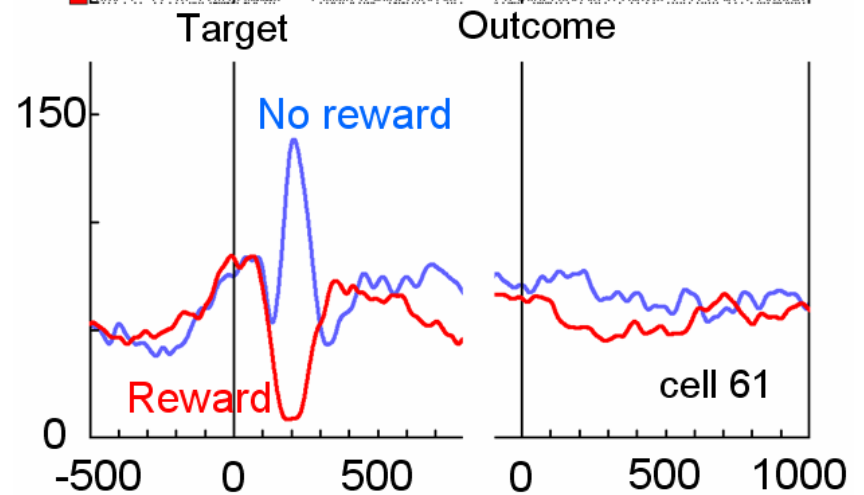
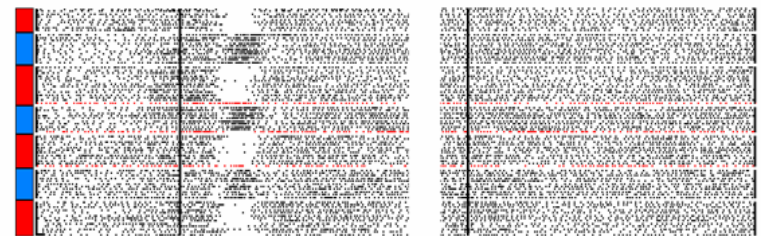
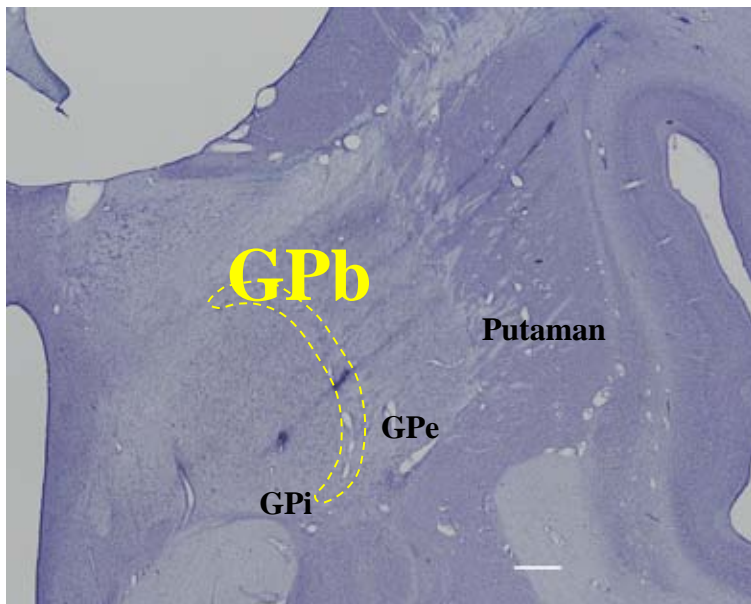
Neurons related to motivation (not action) are found in:



Globus pallidus

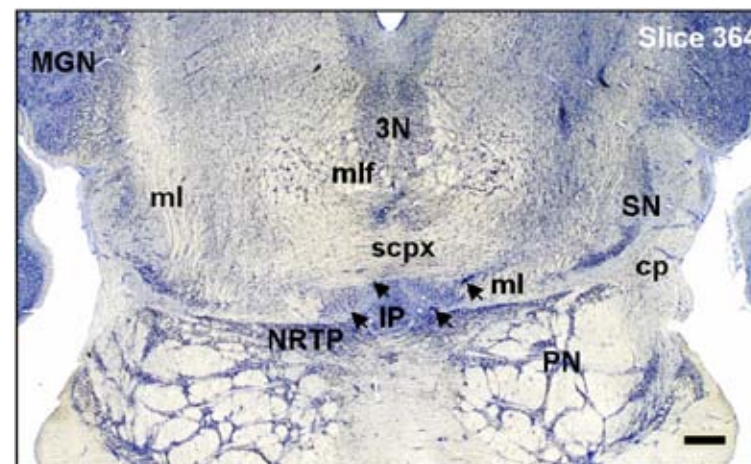
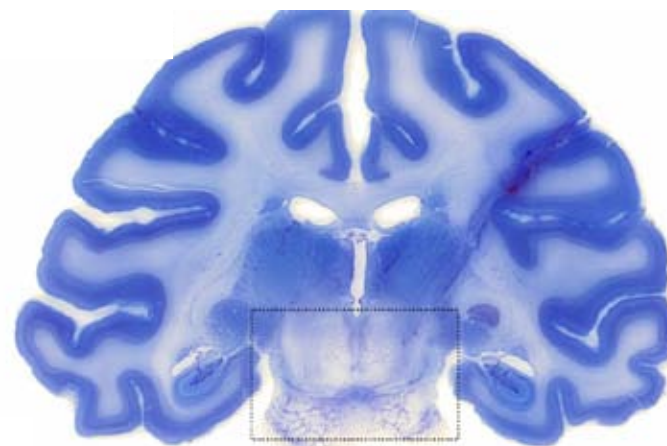
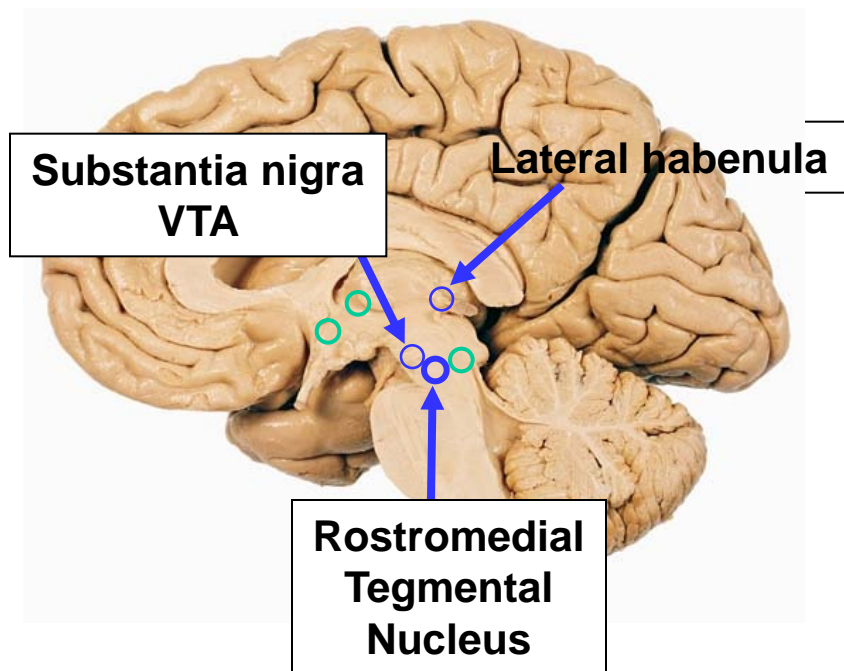


Simon Hong





Simon Hong



Jhou TC, Fields HL, Baxter MG, Saper CB, Holland PC (2009)

Jhou TC, Geisler S, Marinelli M, Degarmo BA, Zahm DS (2009)

Kauffman J, Veinante P, Pawlowski SA, Freund-Mercier MJ, Barrot M (2009)

Kim U (2009)

