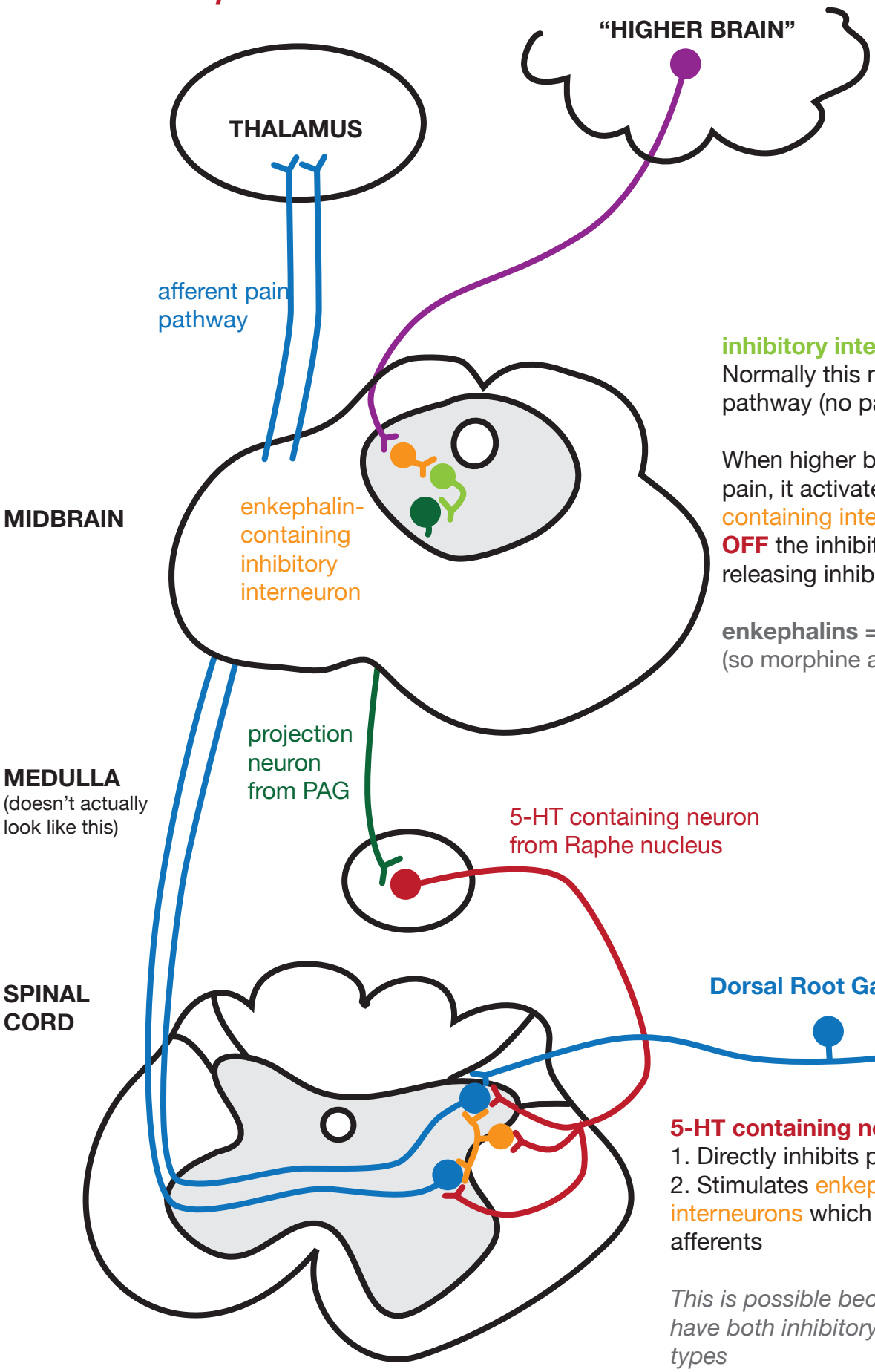
Periaquaductal Grey Pain Modulation/Spinothalamic Tract

The Effect of Opioids



inhibitory interneuron
Normally this neuron is inhibiting this pathway (no pain modulation)

When higher brain wants to modulate pain, it activates enkephalin-containing interneurons, this turns **OFF** the inhibitory interneuron, releasing inhibition of the system

enkephalins = endogenous opioids
(so morphine acts the same way)

5-HT containing neuron either:
1. Directly inhibits primary pain afferents
2. Stimulates enkephalin-containing interneurons which then inhibit pain afferents

This is possible because 5-HT receptors have both inhibitory and excitatory sub-types

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