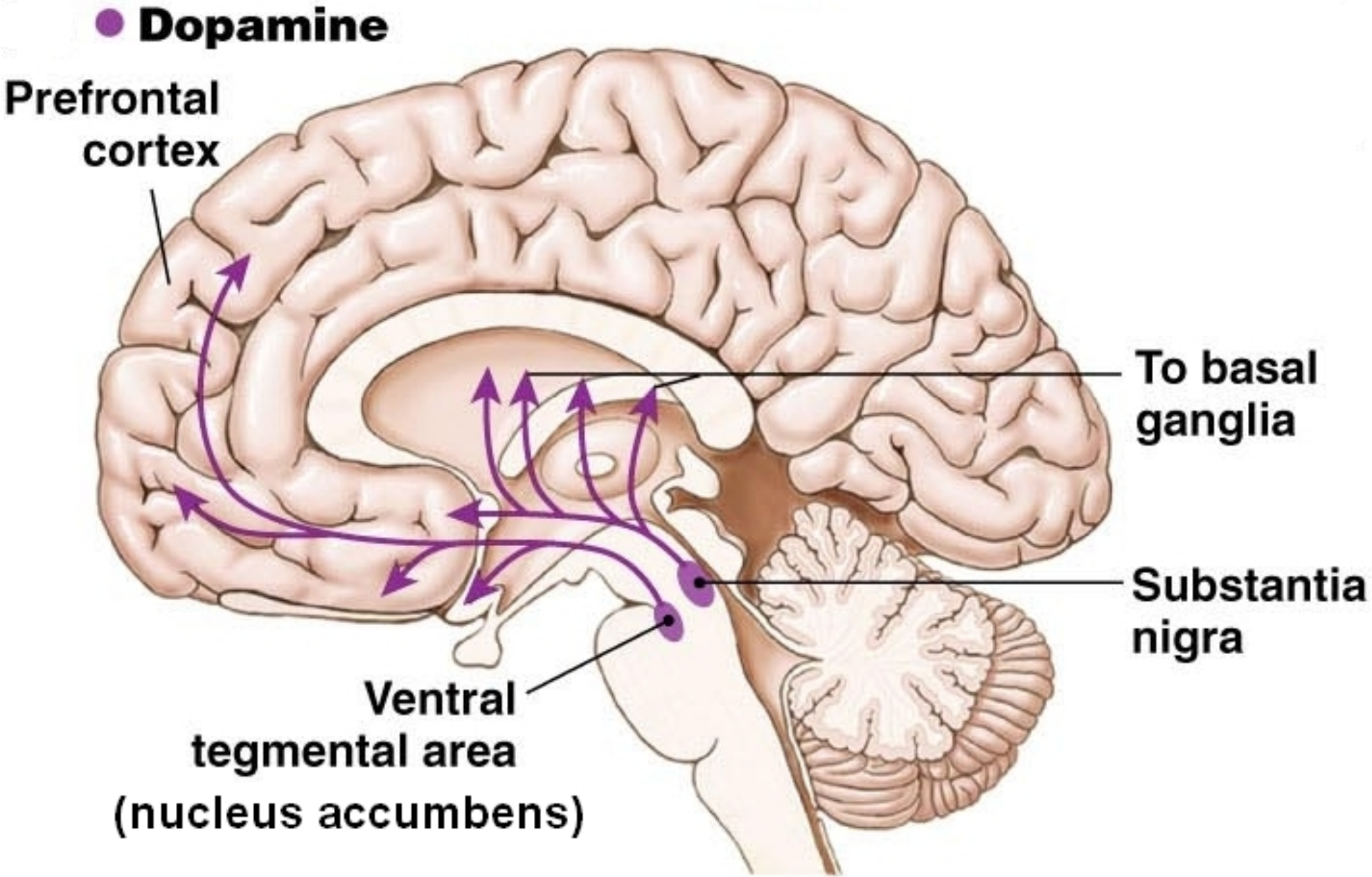

Dopamine
Prefrontal cortex
To basal ganglia
Substantia nigra
Ventral tegmental area
(nucleus accumbens)

Dopamine

Two Major Pathways - One Involves Motor Control

Neurons in the substantia nigra, caudate nucleus and cerebellum:

Initiation of muscle movement.
Muscle control related to posture, gait
and regulation of opposing muscle groups.
Reflexive responses.

Lack of usable dopamine affects these by causing an inability to control the initiation and cessation of movement resulting in tremors and motor/speech tics such as those found in Parkinson's patients and cases of Tardive Dyskinesia.

Excess of usable dopamine affects these functions in the form of rigidity such as the catatonia sometimes found in schizophrenia.

Dopamine

Two Major Pathways - One Involves Attention and Emotion

Neurons in the frontal and temporal lobes:

Ability to focus attention and concentrate.
Ability to sort/filter sensory inputs and information.

Excess of usable dopamine affects these functions in the form of hallucinations (especially auditory) and delusions common in schizophrenia and sometimes found in cocaine and amphetamine addicts.

Dopamine

Two Major Pathways - One Involves Attention and Emotion

Neurons in the frontal lobes, amygdala and hypothalamus:

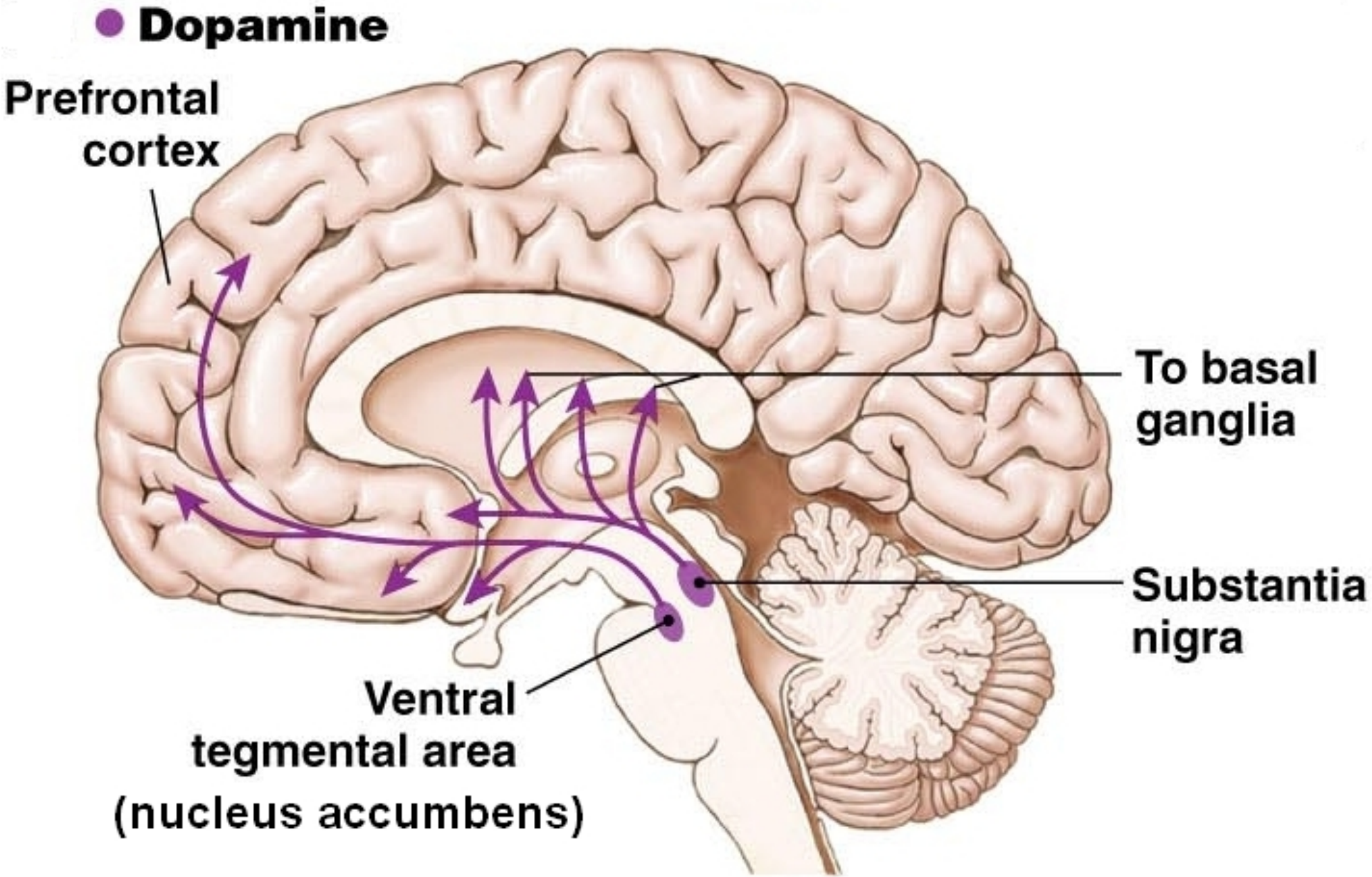
Regulation of impulsivity.

Neurons in the reward/punishment centers of the hypothalamus and nucleus accumbens:

Ability to experience pleasure. This is the source of the feeling of pleasure regardless of the activity producing it.

Excess of usable dopamine produces behavioral or emotional outbursts and inappropriate affect found in schizophrenia.

Lack of usable dopamine produces ahedonia found in both schizophrenics and recovering cocaine and amphetamine addicts.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