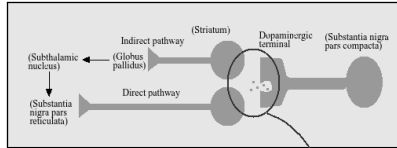
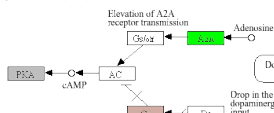


0.0 0.5 1.0

PARKINSON DISEASE



The indirect pathway spiny projection neuron (SPN)



Increased spontaneous activity
Defect in motion-related activity

Abnormal movement specification
and motor coordination

Reduced spontaneous activity

The direct pathway spiny projection neuron (dSPN)

Environmental toxins
MPTP, MPP+, Rotenone, Mn, Maneb

Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

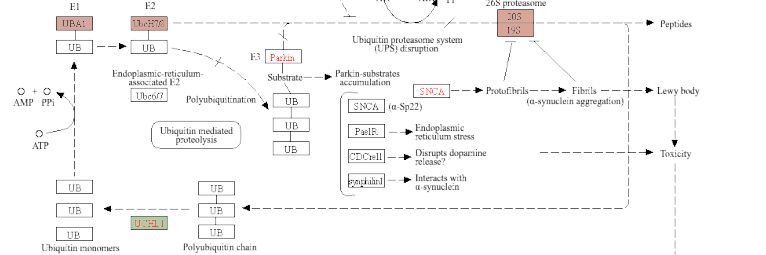
Drop in the dopaminergic input

Drop in the dopaminergic input

Drop in the dopaminergic input

Dopaminergic neuron

The ubiquitin pathway



Mitochondrial dysfunction

