

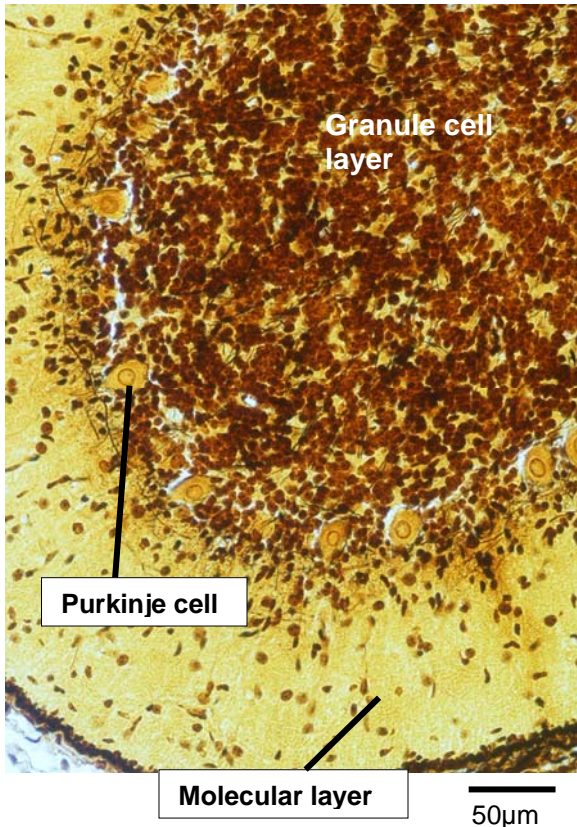
# CELLS ONLINE WORKSHEET

TOPIC

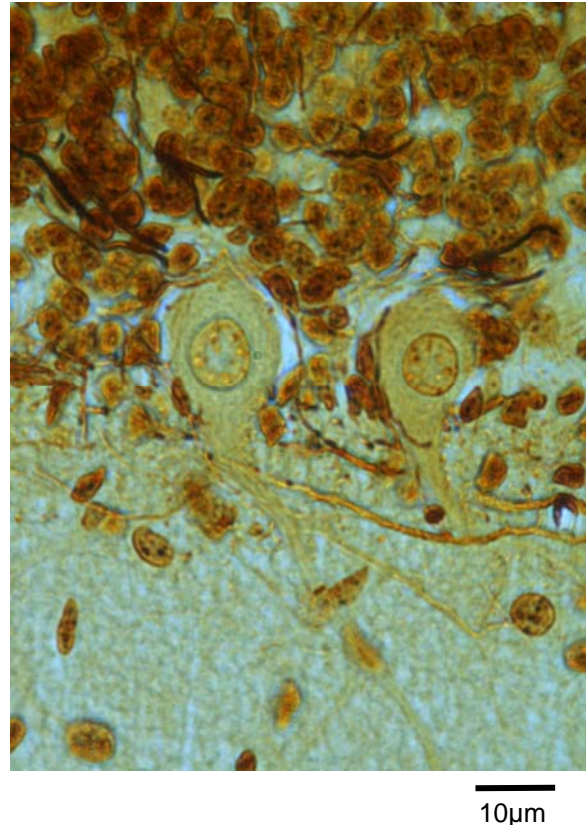
NEURONS LINE UP

In some parts of the brain, like the cerebral cortex and the cerebellum, the neuronal cell bodies are arranged in layers and the dendrites and axon extend away from the cell body into different layers. These slides show thin sections of cerebellum stained with a silver stain, which stains the nucleus brown. The cerebellum has three layers: the **granule cell layer**, where many small 'granule neurons' are packed close together; the **Purkinje cell layer**, where large Purkinje cells line up at the edge of the granule cell layer; and the **molecular layer** which carries millions of dendrites and axons from both granule and Purkinje cells, plus a few other cells (evident by their stained nuclei).

Slide A: Cerebellum, 200x magnification



Slide B: Cerebellum, 1000x magnification



Q1: In Slide B, identify and label the granule cell layer, the Purkinje cells and their nuclei. Try to identify the main process extending away from the Purkinje cell bodies into the molecular layer.

Q2: How many Purkinje cells can you see in Slide A and Slide B? Use the scale bar for Slide B to measure the size of the Purkinje cell body (width and length).

Q3: Use the scale bar to measure the size of the granule cell nuclei (the nucleus takes up most of the space in the granule cell body). What can you say about the relative size of granule neurons and Purkinje neurons?