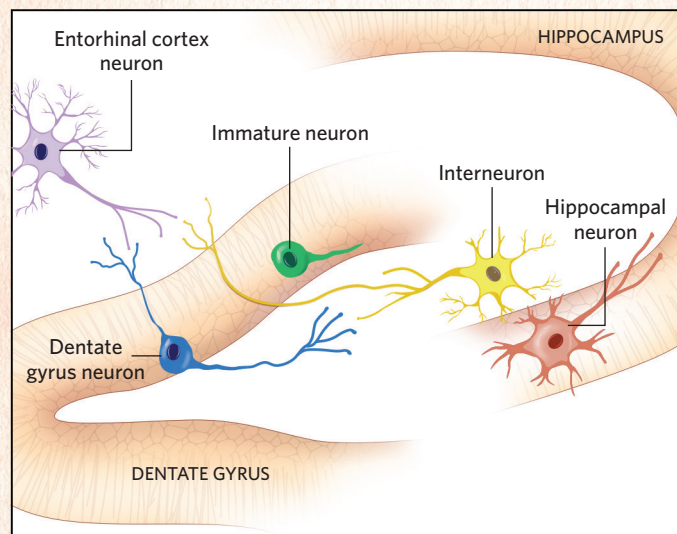
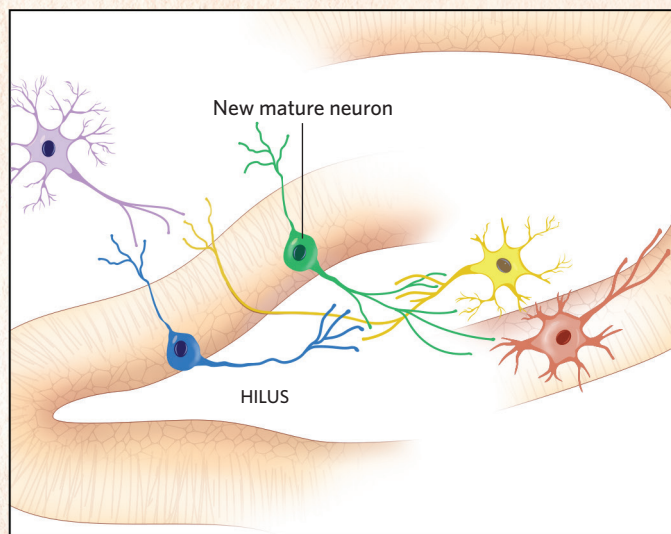


## HOW ADULT-BORN NEURONS INTEGRATE INTO THE BRAIN

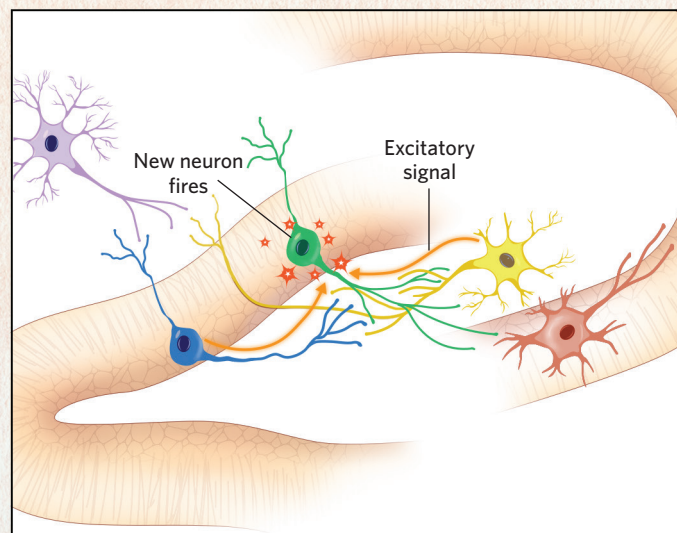
In recent years, images and videos taken with state-of-the-art microscopy techniques have shown that new neurons in the dentate gyrus of the hippocampus go through a series of changes as they link up to existing networks in the brain.



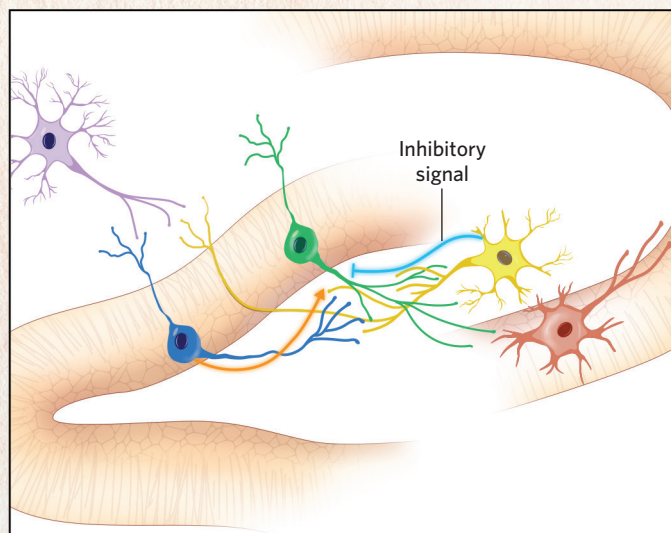
A neural stem cell divides to generate a new neuron (green).



As the new neuron grows, it rotates from a horizontal to a vertical position and connects to an interneuron (yellow) in a space called the hilus that sits within the curve of the dentate gyrus. The young neuron also starts making connections with well-established dentate gyrus neurons (blue) as well as neurons in the hippocampus (red).



Once connections are formed, mature neurons send signals into the new neuron, and the cell starts firing off more of its own signals. At around four weeks of age, the adult-born neuron gets hyperexcited, sending electrical signals much more often than its well-established neuronal neighbors do.



As the new neuron connects with still more neurons, interneurons in the hilus start to send it signals to tamp down its activity.