

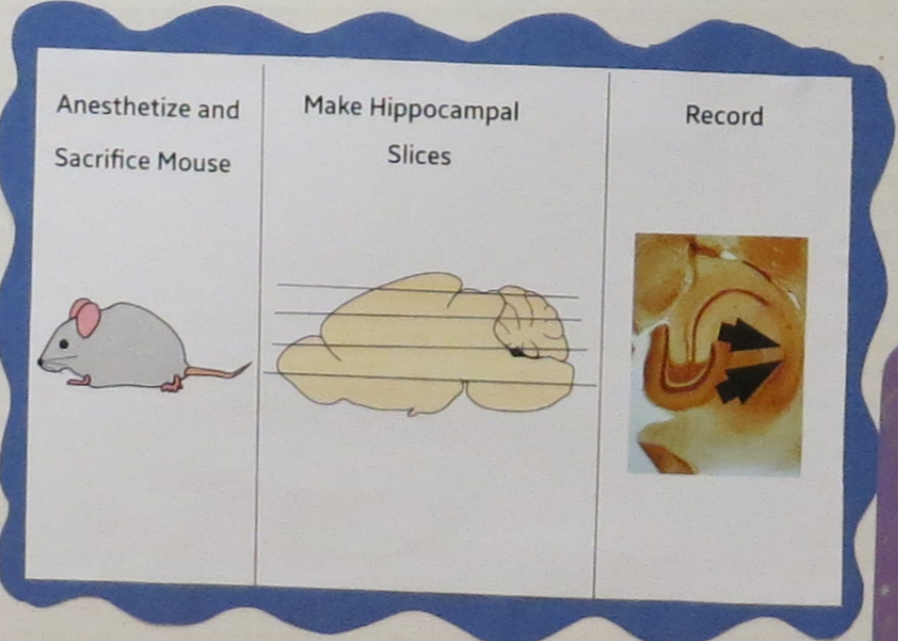
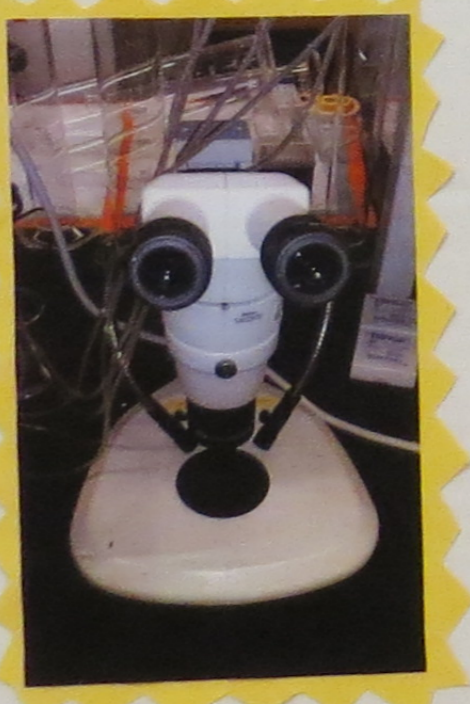
Abstract

The brain has the ability to form memories in a region called the hippocampus. Neurons in the hippocampus communicate with each other at synapses and synaptic changes are proposed to underlie learning and memory. Oxidative Stress contributes to negative effects in the human body, ranging from a hindrance of memory formation to premature cell death and possibly many other neurological disorders. As one ages, memory diminishes and Oxidative Stress increases, this may be caused by several factors including environmental factors. Previous studies performed using a mouse model of low level of lead (Pb) exposure have shown that Pb levels here in El Paso have a negative effect on memory, which could be caused by elevated levels of free radicals resulting in Oxidative Stress(Nava). The range of ailments that come from unbalanced free radicals creates a need for research on antioxidants. This encouraged us to use electrophysiology to test the possible neuronal beneficial role of antioxidants extracted from the plant Burdock (a plant endogenous to El Paso) and examine the effect it will have on neurological activity in mice hippocampal slices. We hypothesize that these antioxidants will enhance neuronal responses and contribute to enhance memory.

Materials & Methods

Open Field Recording. For this experiment, we obtained hippocampal slices of brain tissue from Musmuculus C57BL/6 mice. Tissue sectioning was made with a leica vibratome, slices were cut 300 micrometers thick. The tissue slices were placed in the rig and open field recording was performed to collect data from a control, bathed, and wash out slice.

THE EFFECTS OF PLANT EXTRACT ANTIOXIDANTS ON LONG TERM POTENTIATION



Expected Results

We hypothesize that the antioxidants from the plant Burdock will chelate the free radicals. Therefore it will have a positive effect on neuronal activity.

