

P016 *Drosophila melanogaster*: A Model for Metal Ion Homeostasis and Oxidative Stress

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The homeostasis of the transition metal ions, copper, zinc, iron and manganese are critical for overall health. An imbalance of these metals has been implicated in various neurodegenerative diseases (e.g. Alzheimer's Disease, Parkinson's Disease and ALS). In our studies *Drosophila*, at various ages have been analyzed using ICP-MS (inductively coupled plasma – mass spectrometry) to measure the total amounts of copper, zinc, iron and manganese ions. Further, primary cultures of *Drosophila* embryos with genetically labelled GFP (green fluorescent protein) neuronal cell types (e.g. cholinergic and GABAergic) have been treated with sublethal doses of toxins and analyzed for survival. Together these data will step toward elucidating the homeostasis of metals and the relationship with oxidative stress in *Drosophila*.