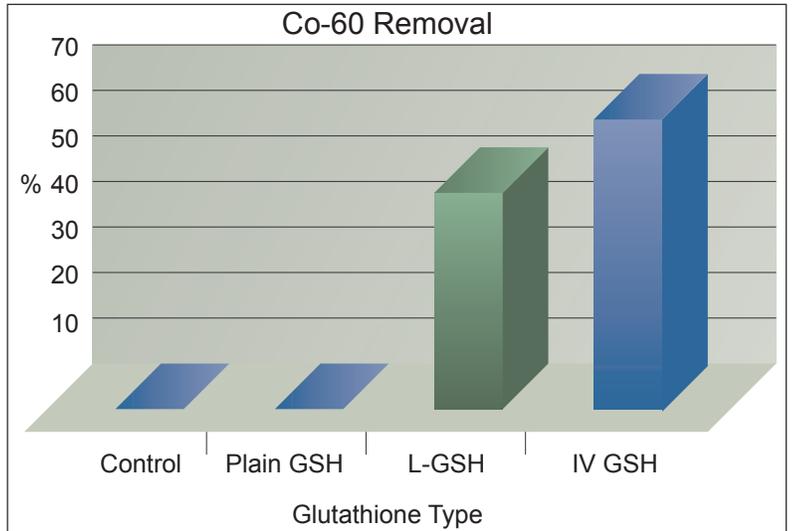




# ReadiSorb® Glutathione Absorption Studies

Questions about the absorption of oral glutathione are common. We now have documentation of bioavailability and function after oral ingestion of ReadiSorb® Glutathione in animal studies.

This graph depicts a study comparing the functional characteristics of various forms of glutathione in the removal of a toxic metal from the liver of rats. Cobalt-60 was given intravenously, and the data shows that after oral ingestion, ReadiSorb® Glutathione had 75% of the function of intravenous glutathione. Plain glutathione given orally had no effect in removing the toxin from the liver of these animals (1).

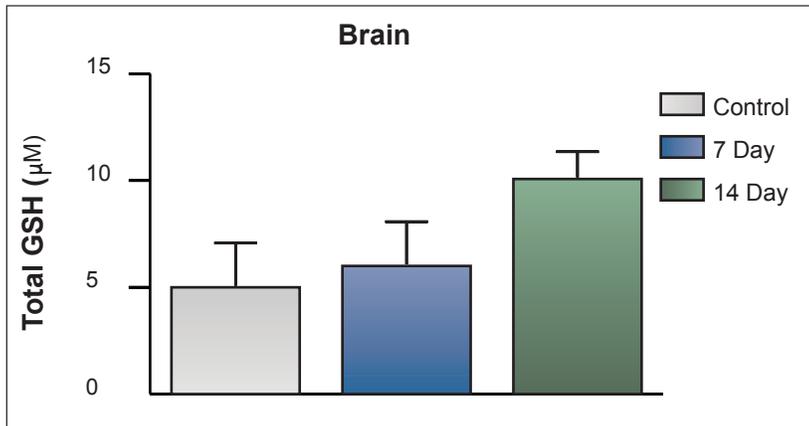


Removal of Co-60 from the liver of rats infused with Co-60. Oral liposomal Glutathione (GSH) has 75% of the function of IV GSH. IV GSH removed 64%. Liposomal GSH given orally removed 47% and plain GSH given orally removed 0%.

These findings are supported by in vitro cell culture studies which show that ReadiSorb® Glutathione is absorbed into mesencephalic brain cells (astrocytes and neurons) 100 X's more efficiently than plain glutathione (2). This study also showed no toxicity to the brain cells using doses that were 200 times the effective dose identified in the study. A maximum tolerated dose study in mice showed no toxicity at 1200 mg/kg/day for 10 days. This dose was the maximum amount that could be given to the mice by gavage

Additionally, unpublished data from a university study documents increased tissue (heart, liver and brain) levels of glutathione in animals using oral ReadiSorb®

Glutathione added to their drinking water for 7 to 14 days. See graph to the left.



1. Levitskaia TG, Morris JE, Creim JA, Woodstock AD, Luders T, Curry TL, et al. Amino-thiol receptors for decorporation of intravenously administered (60)Co in the rat. *Health physics*. 2010;98(1):53-60.
2. Zeevalk GD, Bernard LP, Guilford FT. Liposomal-glutathione provides maintenance of intracellular glutathione and neuroprotection in mesencephalic neuronal cells. *Neurochemical research*. 2010;35(10):1575-87.