**Onco-Wiki Manual Manipulation**

1. **Data Variability**

Using a spreadsheet package such as Excel, open the Healthy dataset file ([**http://oncowiki.co.uk/support/healthy.xlsx**](http://oncowiki.co.uk/support/healthy.xlsx)). Manually adjust fold changes for each corresponding gene.

1. **Considerations**

Since, this is the Healthy Dataset, we would ideally expect little to no fold change expression for most genes. However, since this dataset originated from real patients and the human genome is known to be very heterogeneous, we have variations in gene expression levels.

If particular genes are known to be implicated but not necessarily mutated in your particular cancer, it may be worth increasing the upregulation / downregulation of those genes to illustrate involvement. This will help to draw up molecular pathways which are consistent with our current understanding and expectation.