

A volcano plot showing the relationship between \log_2 fold change (x-axis) and $-\log_{10}(p\text{-value})$ (y-axis). The x-axis ranges from -8 to 8, and the y-axis ranges from 0 to 10. A horizontal dashed line is drawn at $-\log_{10}(p\text{-value}) = 3$, and two vertical dashed lines are drawn at \log_2 fold change = 2 and \log_2 fold change = -2. The plot displays a large number of grey points representing all differentially expressed genes. Orange points highlight a cluster of genes with high \log_2 fold change and high $-\log_{10}(p\text{-value})$. Blue points highlight a cluster of genes with high $-\log_{10}(p\text{-value})$ and moderate \log_2 fold change. A single red point is located at approximately \log_2 fold change = 4.5 and $-\log_{10}(p\text{-value}) = 3.5$.