Description of plots in Family Summary

Summary Table:

This table outlines the abnormally transcribed chromosomes across all the cells in each family. Each family has cell A and cell B and for some families cousin cells c1 and or c2. It includes annotations for each chromosome that was determined to have abnormal transcription. It also includes the ratio of expression levels for each homolog of an abnormally transcribed chromosome compared to the corresponding control cell transcription. For details on how these quantities are calculated see the Methods.

Genome Wide Allele Specific Expression:

This plot demonstrates the expression levels across the whole genome of each cell. The y-axis is the ratio of the chromosomes’ transcription to control cell transcription (chromosomal TPM ratio). The bars are colored by the expression contributed from each allele. Finally, the x-axis represents genomic position binned by discrete chromosome numbers. Every chromosome bin has a group of values made up of the bars from each cell in the family.

Gene Expression:

This plots demonstrates the gene expression across a single chromosome from a single cell. The y-axis of this plot is the unique chromosomes expression compared to control expression (TPM ratio). The x-axis of this plot is genomic position in 10Mb bins (the point is plotted at the center of the bin).

Allele Specific Expression:

This plots demonstrates the allele specific gene expression across a single chromosome from a single cell. The y-axis of this plot is the unique homolog’s expression compared to control expression (TPM ratio). The x-axis of this plot is genomic position in 10Mb bins. Each point is plotted at the center of its bin. The color denotes the haplotype. Haplotype A is blue and B is red.

TPM Ratio vs avg expression level:

This plot demonstrates the ratio of the expression of each gene compared to the gene’s control cell expression (TPM ratio) based on its average amount of transcription. The y-axis of this plot is TPM ratio. The x-axis of this plot is average transcription level. Each point corresponds to a distinct gene.

Sample Cumulative Sum vs normal:

This plot demonstrates a given cell’s cumulative sum of TPM compared the cumulative sum of the average control cell over the length of a chromosome. The y-axis is the unique cell’s cumulative sum of TPM over the chromosome. The x-axis is the average control cell’s cumulative TPM over the same chromosome. The average slope of the line represents the average TPM ratio over the chromosome.