

- Step 1) For all human genes, identify their co-expression trends.
Previous experiments show that genes positively correlated in their co-expression levels (Figure S1), tend to be related by function, phenotype, and disease relevance. Not all genes have expression data
- Step 2) For genes of unknown function, identify the 20 genes with the strongest co-expression correlation (Figure S2 - only 3 genes shown here for simplicity)
- Step 3) To identify what the co-expressed genes have in common, text-mining software is used (IRIDESCENT) to analyze what diseases, phenotypes, chemicals and other genes appear in the literature with each of the co-expressed genes. These are the inferred associations for the unknown gene. (Figure S3)
- Step 4) After all genes are analyzed, the list is shortened to include only those that are inferred to be associated with gliomas, are plasma-membrane bound, and have commercial antibodies available. Experiments are then conducted to see if these proteins are differentially present in gliomas.

Figure S1: For every experiment where 2 genes, alox5ap and itgb2, are expressed, this is quantified by Pearson's

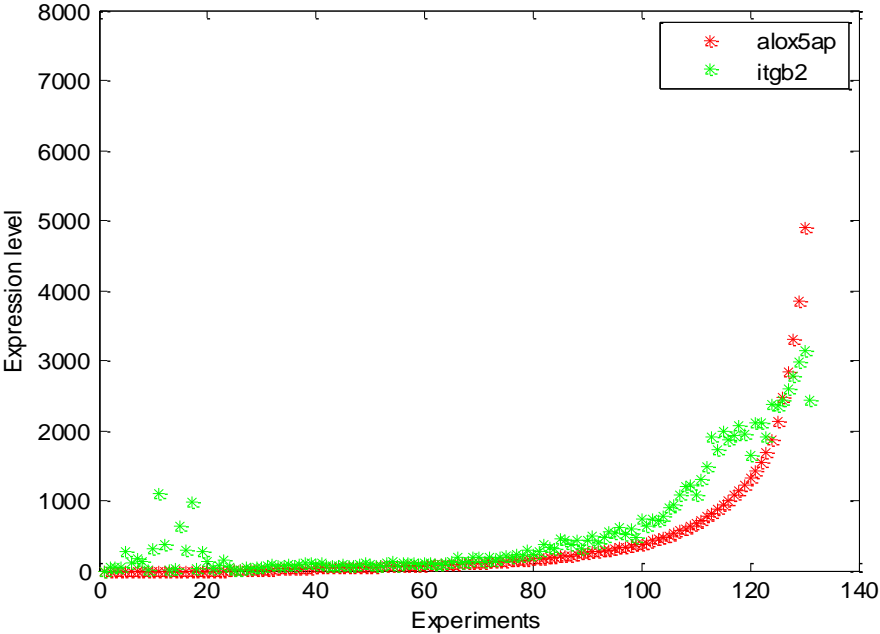


Figure S2: For genes of unknown function, a set of co-expressed genes are analyzed in their place

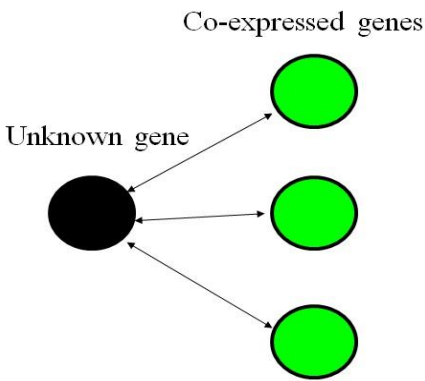


Figure S3: The set of co-expressed genes is searched for reported commonalities in the peer-reviewed literature

