

Additional file 2: Relationship between size and rank of pathways. The 163 pathways, whose sizes are between 20 and 300, are ranked by Student's *t*-test *p*-value in all fourteen datasets. Smaller ranks correspond to more significance. For each rank, a box plot was prepared to summarize the sizes of the pathways at that rank in the fourteen datasets. Median sizes are joined by thick line to show the overall size-rank trend.

