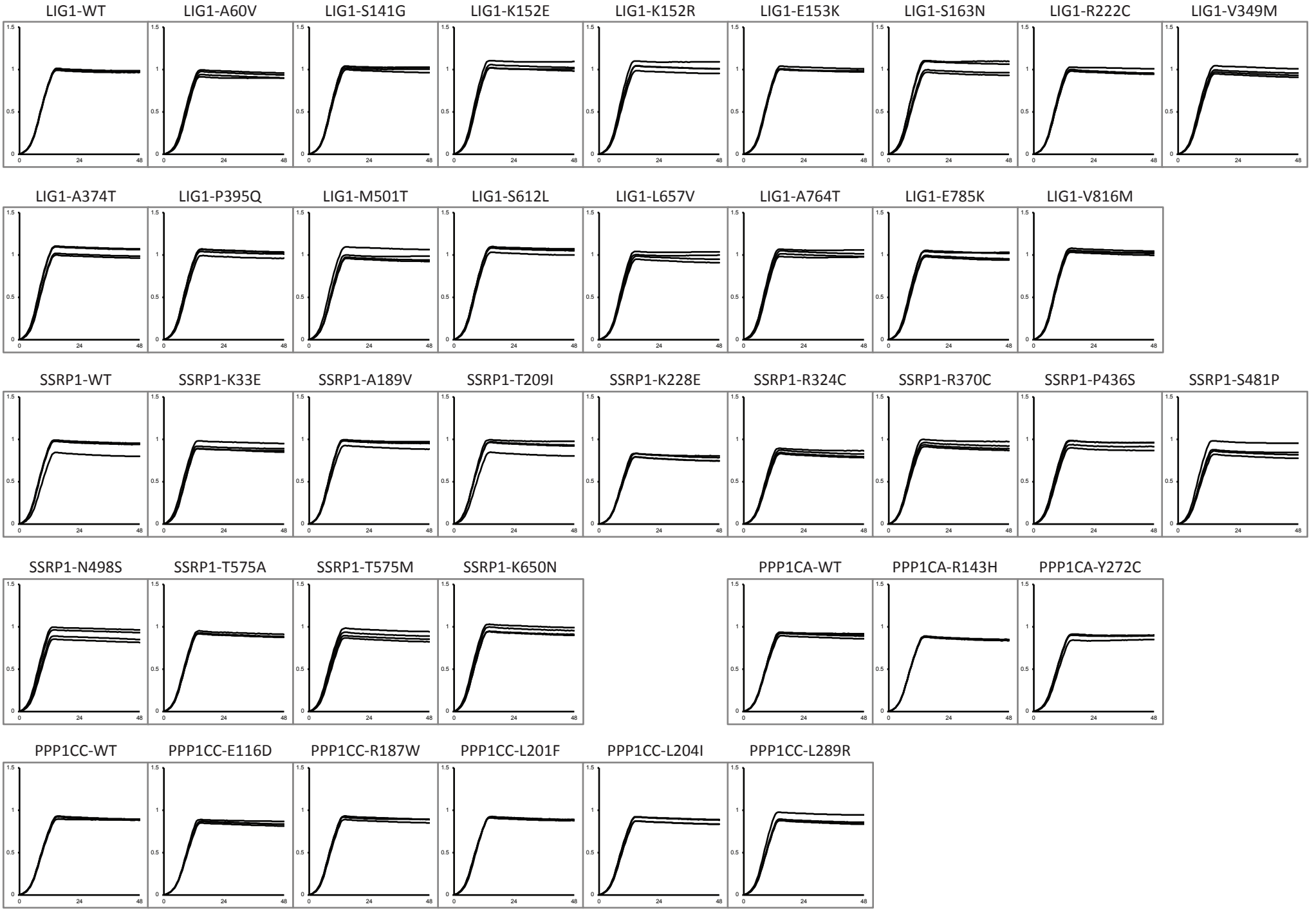

Figure S1. Growth curve replicates of wild-type yeast (BY4742) expressing indicated human cDNAs in –Leu media at 30°C. X-axis represents time in hours, while y-axis represents OD600 readings.

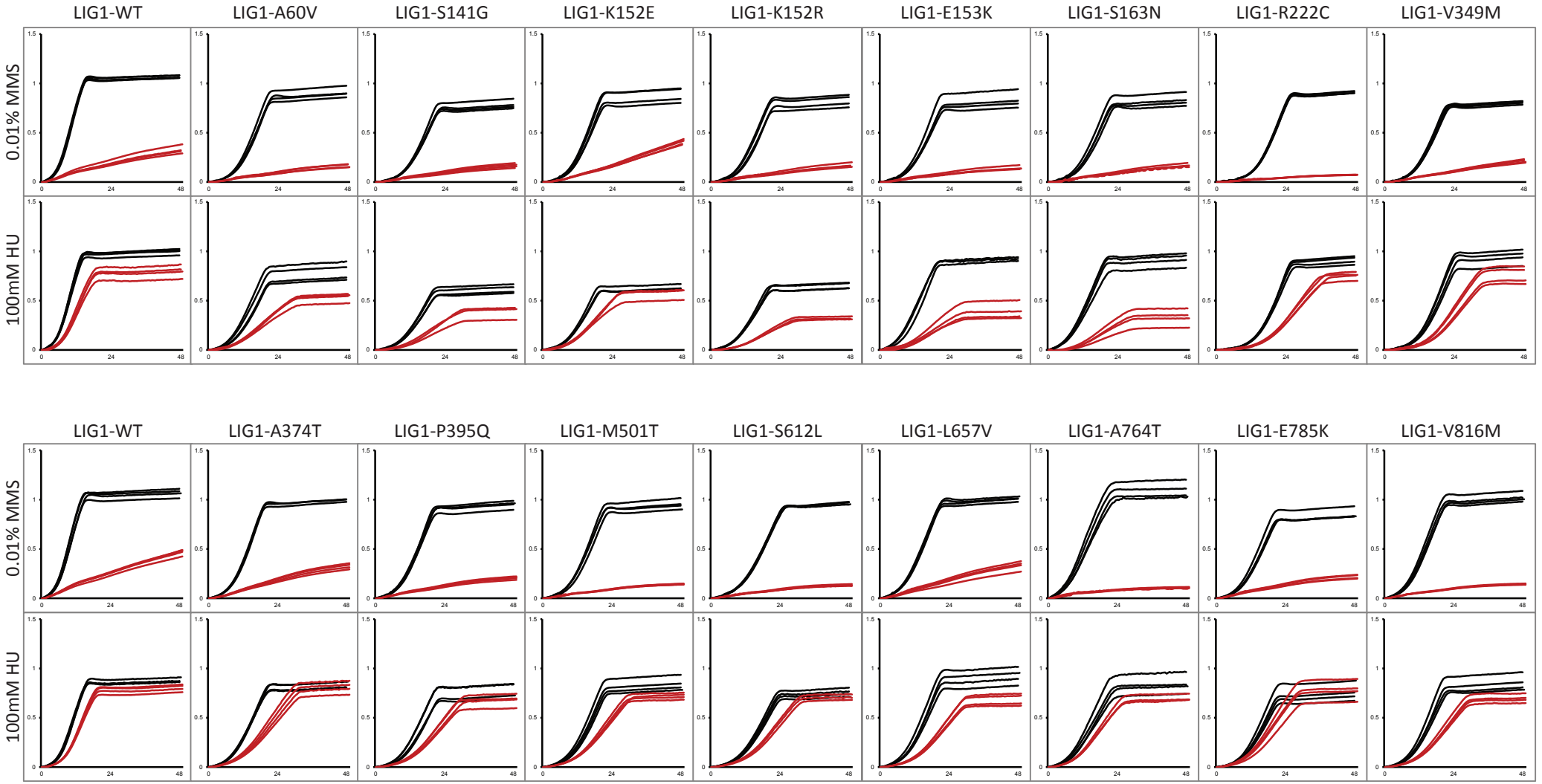

Figure S2. Growth curve replicates of *cdc9*Δ yeast strains expressing indicated human cDNAs in –Leu media at 30°C. Black lines represent growth curve replicates in "No Drug" condition, while red lines represent growth curve replicates in indicated "Drug" condition. The "No Drug" and "Drug" replicates shown in each panel were grown on the same plate and diluted from the same mid-log phase culture. X-axis represents time in hours, while y-axis represents OD600 readings.

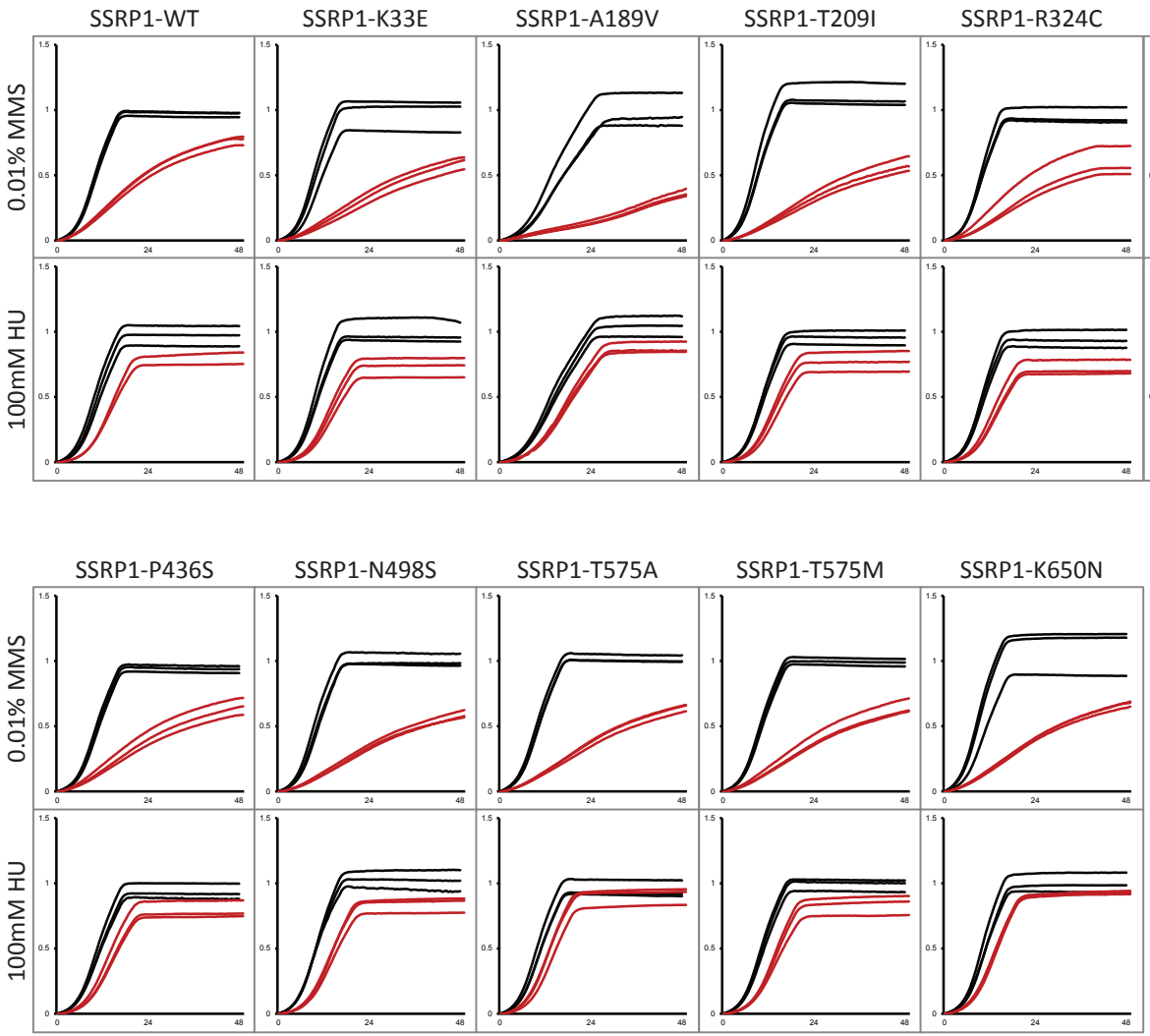

Figure S3. Growth curve replicates of *pob3*Δ yeast strains expressing indicated human cDNAs in –Leu media at 30°C. Black lines represent growth curve replicates in "No Drug" condition, while red lines represent growth curve replicates in indicated "Drug" condition. The "No Drug" and "Drug" replicates shown in each panel were grown on the same plate and diluted from the same mid-log phase culture. X-axis represents time in hours, while y-axis represents OD600 readings.

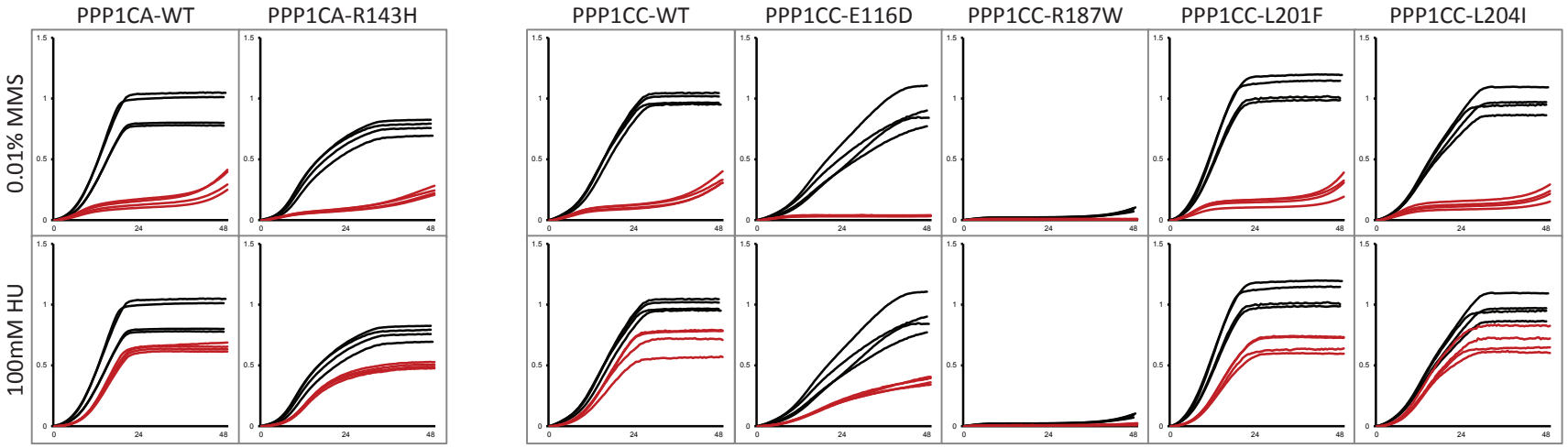

Figure S4. Growth curve replicates of *glc7*Δ yeast strains expressing indicated human cDNAs in –Leu media at 30°C. Black lines represent growth curve replicates in "No Drug" condition, while red lines represent growth curve replicates in indicated "Drug" condition. The "No Drug" and "Drug" replicates shown in each panel were grown on the same plate and diluted from the same mid-log phase culture. X-axis represents time in hours, while y-axis represents OD600 readings.

Tables S1-S6
Available for download as Excel files at www.genetics.org/lookup/suppl/doi:10.1534/genetics.115.181099/-/DC1

Table S1. Plasmids and strains used for screening tumor-specific variants in yeast

Table S2. Essential yeast CIN genes and human homologs tested in the one-to-one complementation screen

Table S3. Essential yeast genes and human homologs included in the pool-to-pool complementation screen

Table S4. Comparison of our compiled list of complementation pairs to literature sources

Table S5. Select examples of essential yeast genes from the one-to-one screen that had multiple homologs tested for complementation

Table S6. Tumor-specific variants analyzed in a yeast wild-type background