

**MUTATED\_SIGNATURE\_2\_UP, MULLIGHAN\_NPM1\_MUTATED\_SIGNATURE\_2\_UP**  REACTOME\_ESTABLISHMENT\_OF\_SISTER\_CHROMATID\_COHESION, REACTOME\_ESTABLISHMENT\_OF\_SISTER\_CHROMATID\_COHESION, BIOCARTA\_STRESS\_PATHWAY, BIOCARTA\_STRESS\_PATHWAY