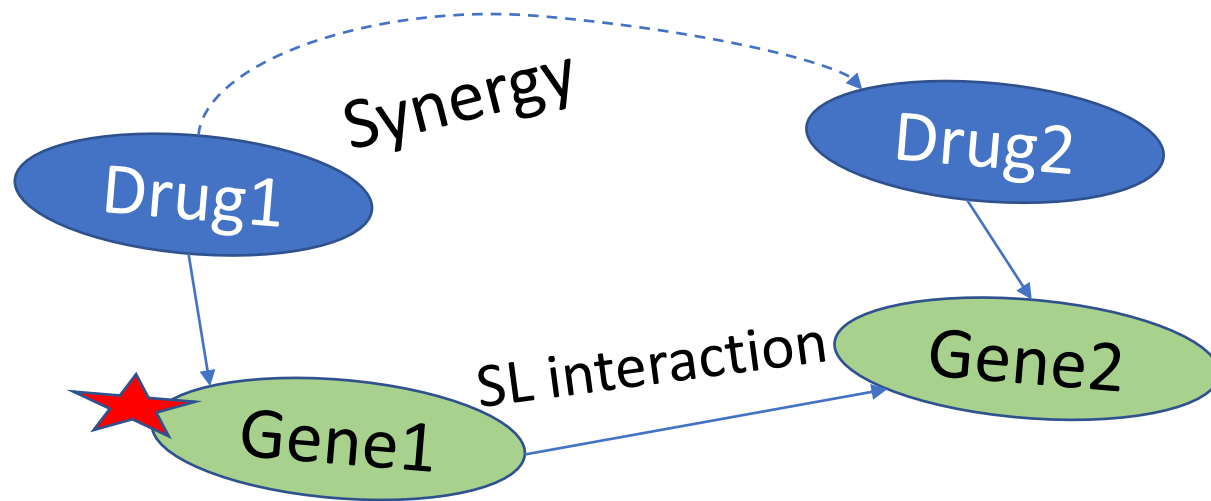


Inferring potential drug synergy from synthetic lethal interaction



- Gene1 and Gene2 are synthetic lethal partners, where mutation in Gene1 makes Gene2 essential (interaction prediction from SLDB)
- Drug1 targets Gene1 and Drug2 targets Gene2 (information collected from DrugBank and DGIDB)
- Drug2 sensitivity ($p < 0.05$) in cancer cells carrying mutation in Gene1 is higher compared to cells not carrying mutation in Gene1 (calculated from GDSC portal drug screening data).
- Drug1 and Drug2 are shown to be potentially synergistic if Gene1 and Gene2 are predicted synthetic lethal interactors and Drug2 shows conditional sensitivity in presence of mutation in Gene1