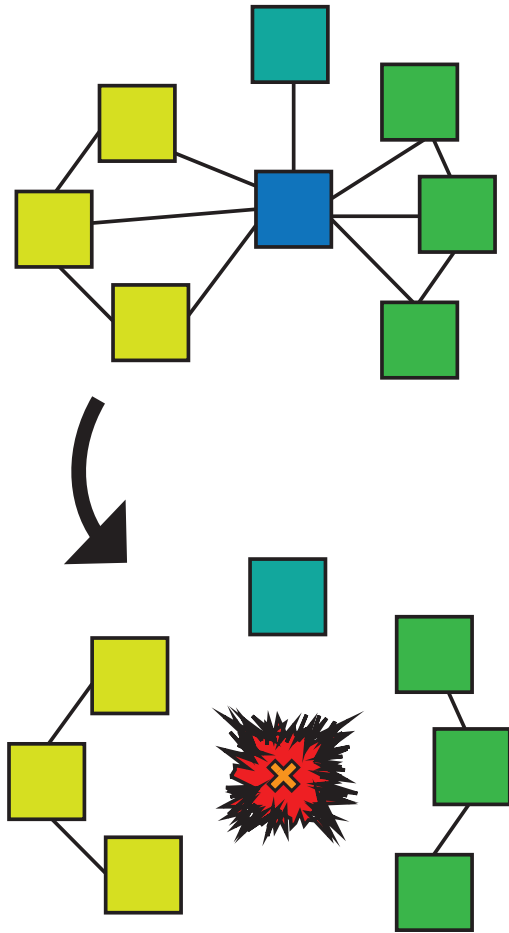
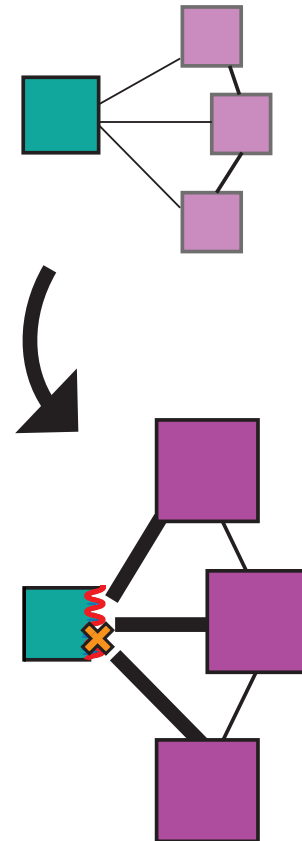


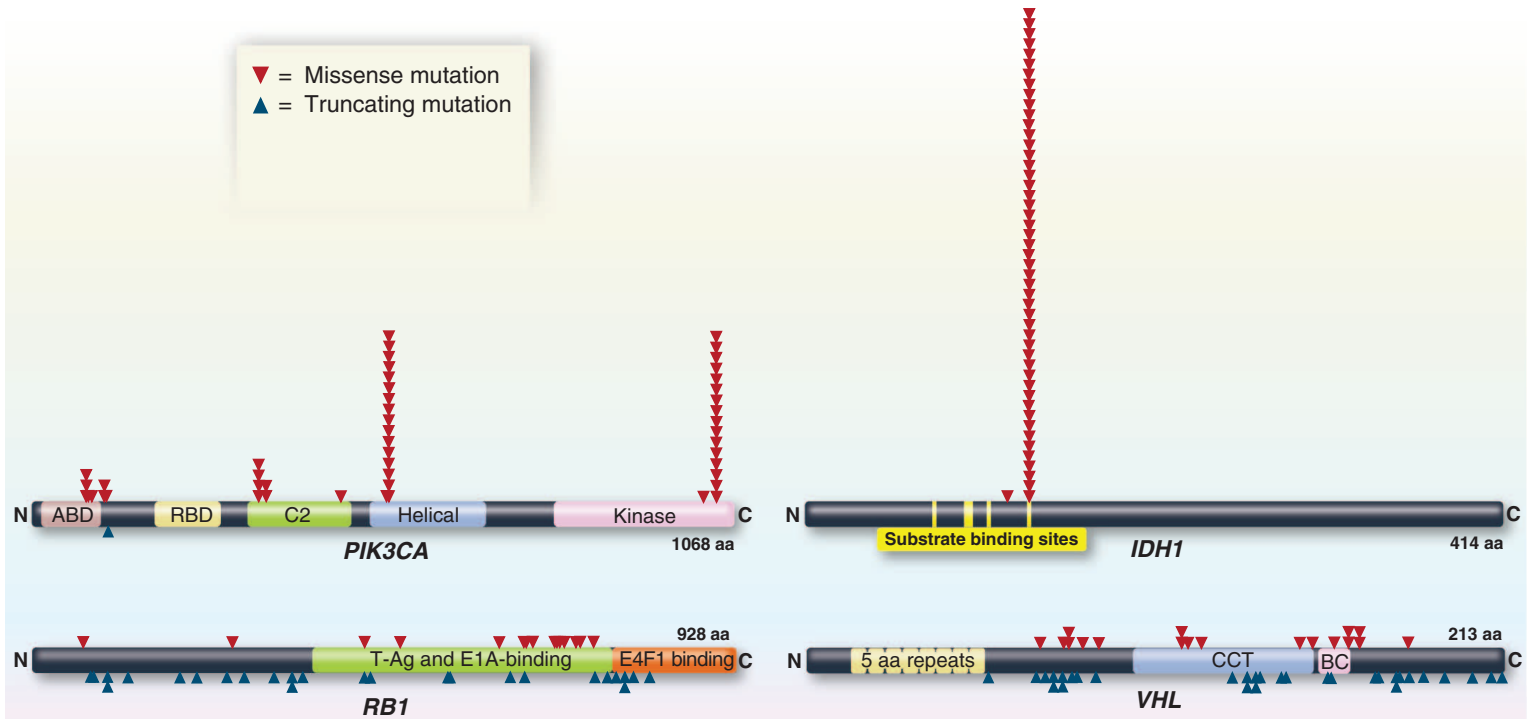
Naive mechanism for the effects of many **TSG**-associated SNVs
Loss-of-Function Affects



Naive mechanism for the effects of many **oncogene**-associated SNVs
Gain-of-Function Affects



Oncogenes



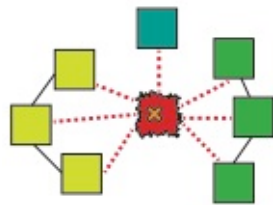
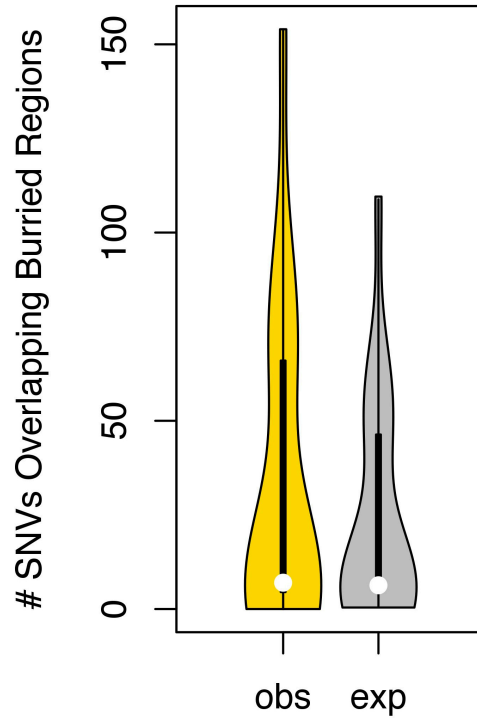
TSGs

Vogelstein, Bert, et al. "Cancer genome landscapes." *Science* (2013)

“Redundant” model: Counting the # of SNVs that intersect buried regions

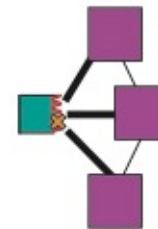
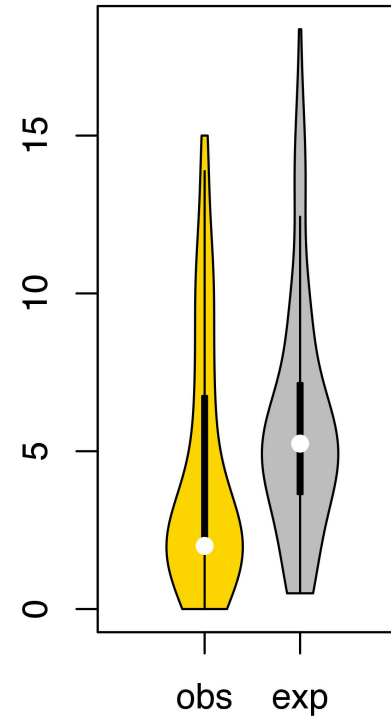
TSGs

$p=7.07E-4$

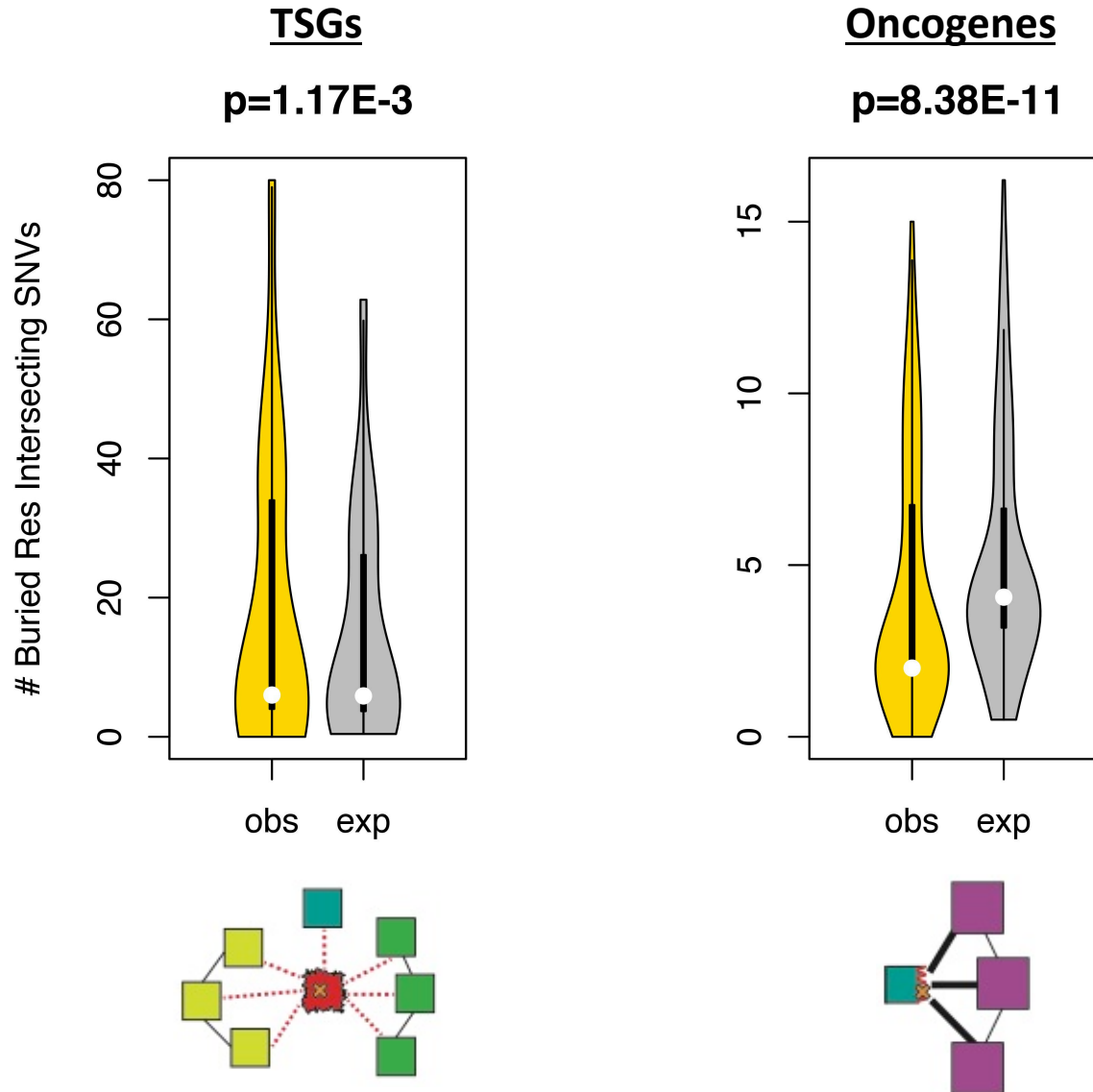


Oncogenes

$p=1.22E-11$



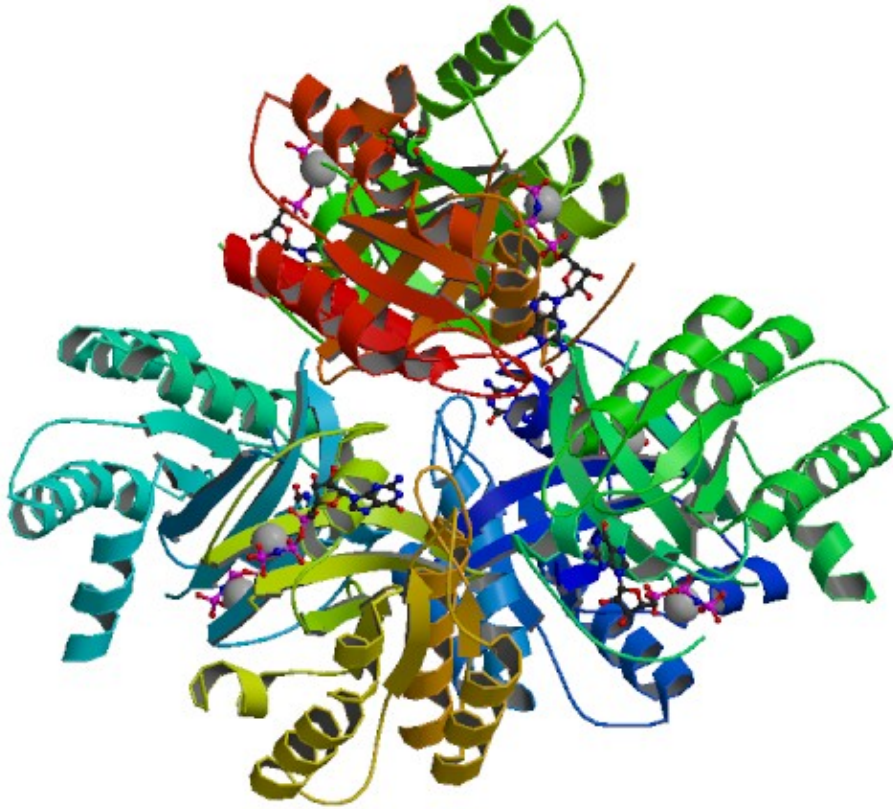
“Non-Redundant” model: Counting the # of *buried residues* that intersect cancer-associated SNVs



Asymmetric Unit vs. Biological Assembly

Ex PDB: 3GFT

Asymmetric



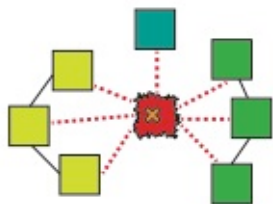
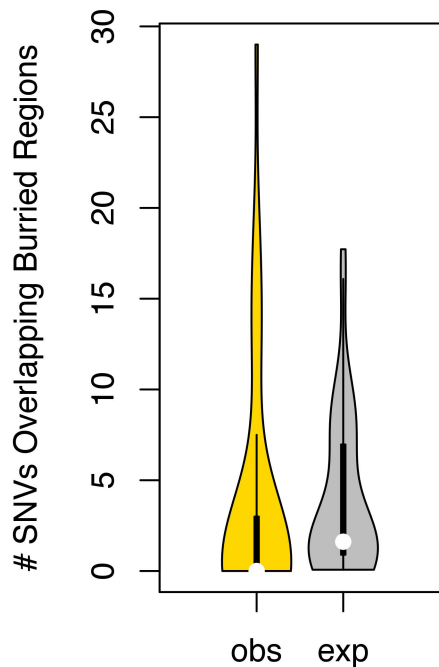
Bio Assembly



“Redundant” model: Counting - **Biological Assembly Files** the *# of SNVs* that intersect buried regions

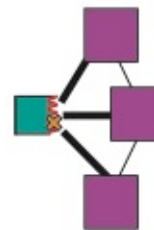
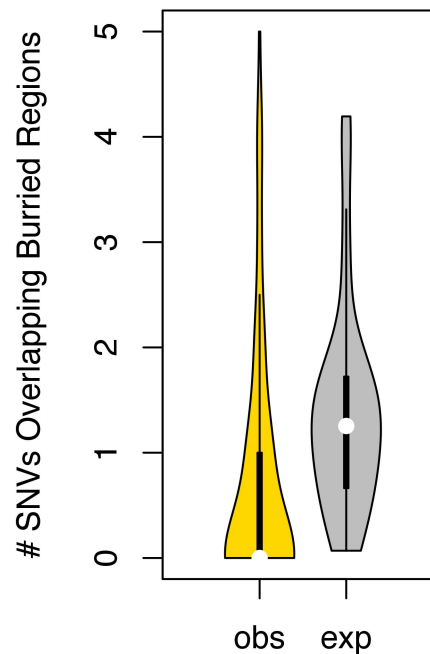
TSGs

Redundant
 $p=0.3534$



Oncogenes

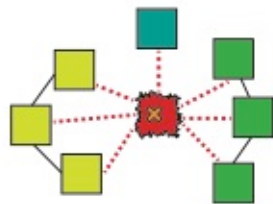
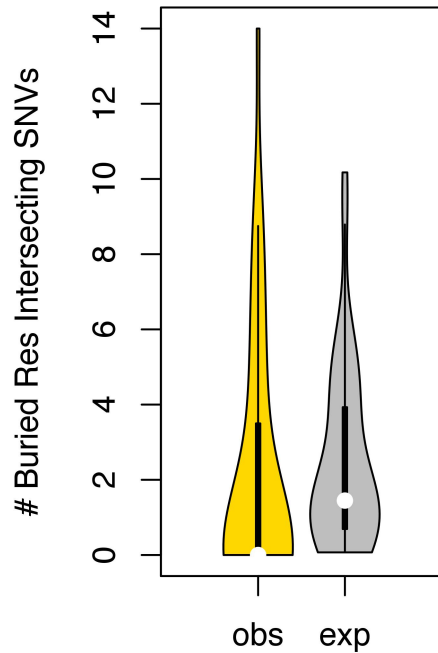
Redundant
 $p=2.9E-12$



“Non-Redundant” model: Counting – **Biological Assembly Files** the *# of buried residues* that intersect cancer-associated SNVs

TSGs

Non-Redundant
 $p=0.3391$



Oncogenes

Non-Redundant
 $p=3.8E-11$

