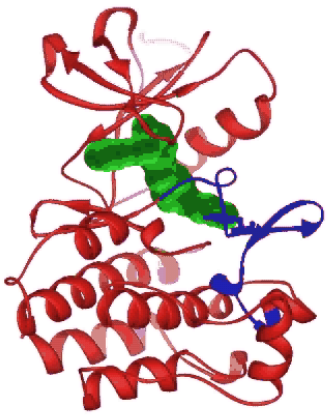
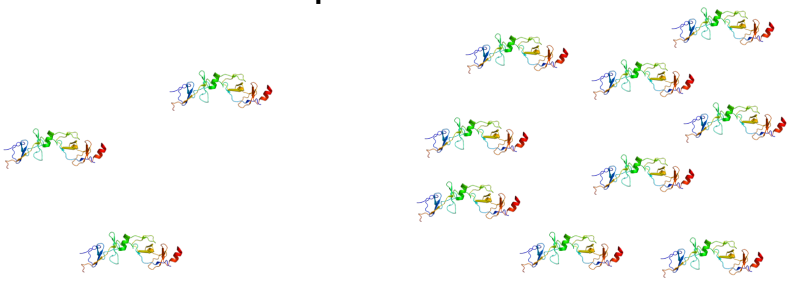
An anti-cancer drug binding and inhibiting a protein mutated in some cancer cells



An example of how a regulatory mutation can cause increased protein function

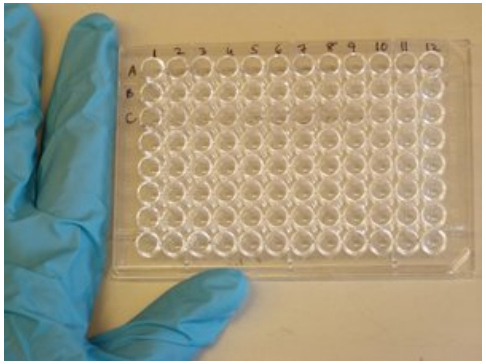


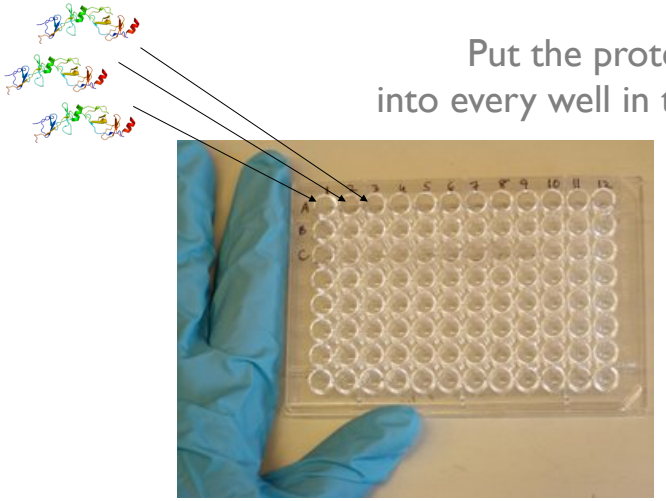
Non-mutated protein
in people without the disease

Non-mutated protein
in people with the disease

What could a drug do, in this case, in order to help the patient?

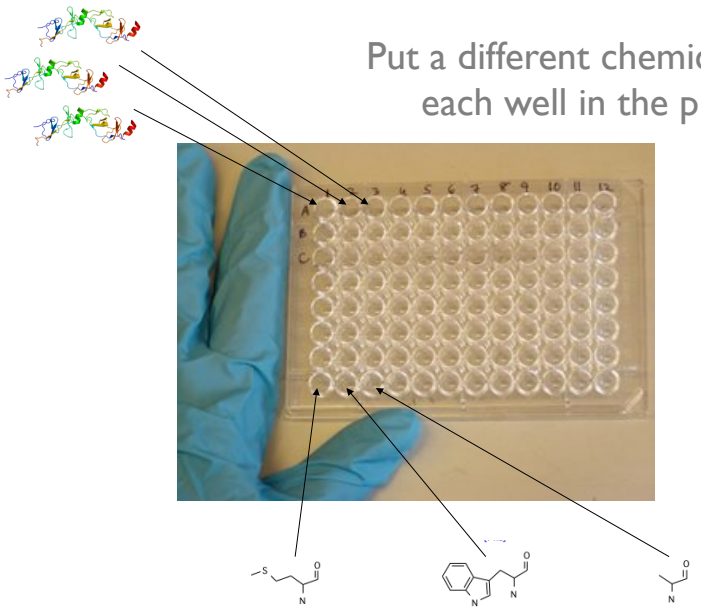
Chemical screening using proteins (purified, i.e. not in whole cells)



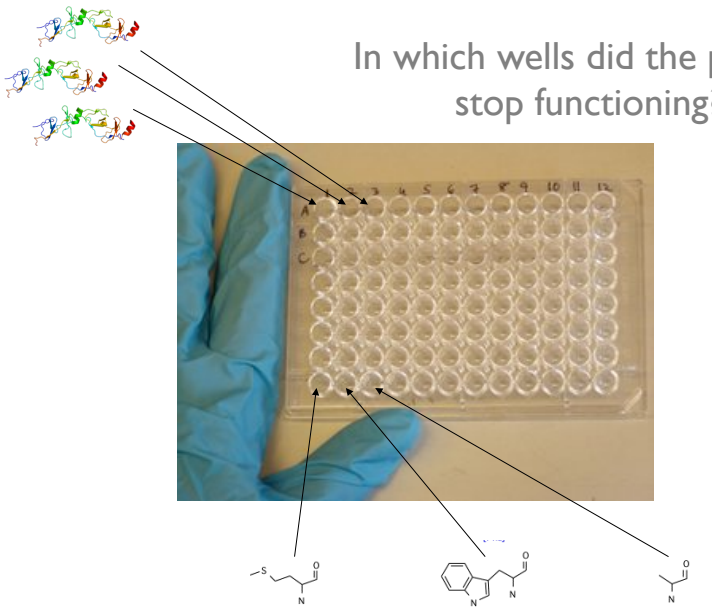


Put the protein
into every well in the plate

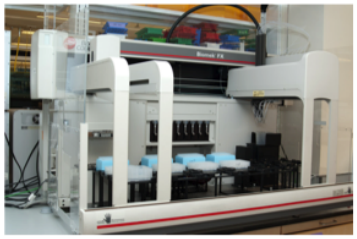
Put a different chemical into each well in the plate

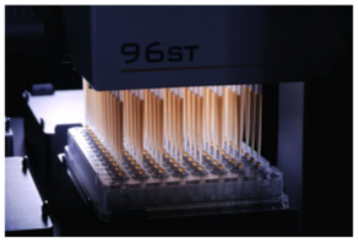


In which wells did the protein stop functioning?

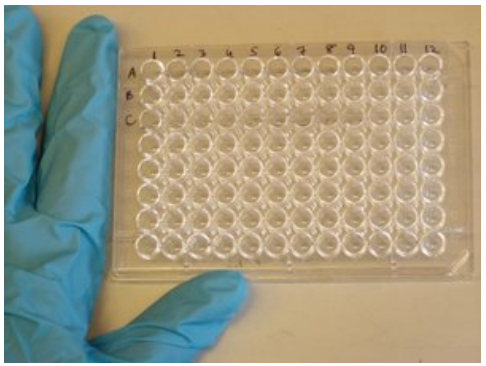


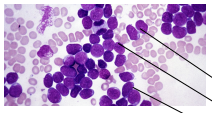
Robots that pipet liquids help perform these experiments



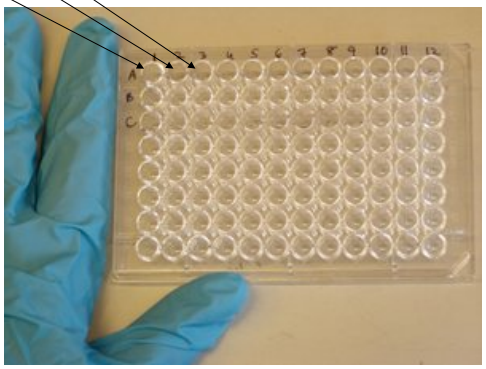


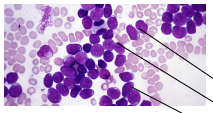
Chemical screening using cells
(which contain the relevant protein, whether identified or not)



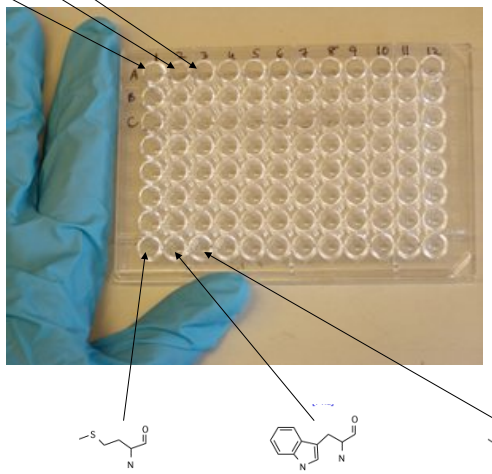


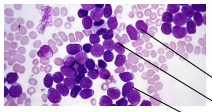
Put cancer cells
into every well in the plate





Put a different chemical into
each well in the plate





In which wells did the cancer
cells die or stop growing?