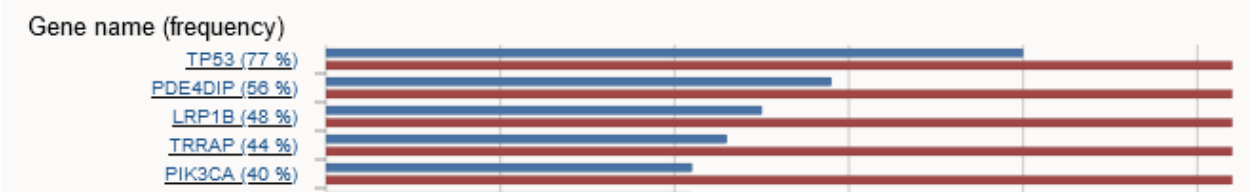
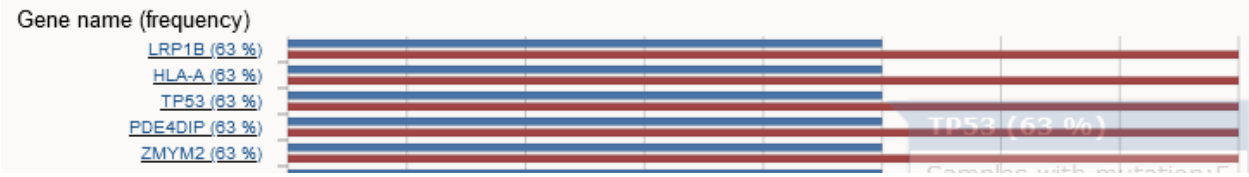
Khan Inan
Professor Truong
BI-GY 7683

Top 5 lung cancer mutated genes

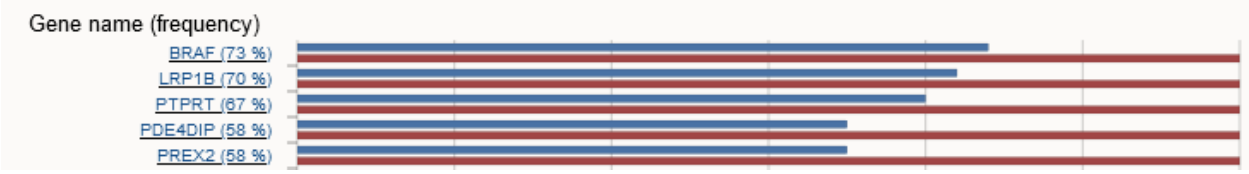
Top 5 breast cancer mutated genes



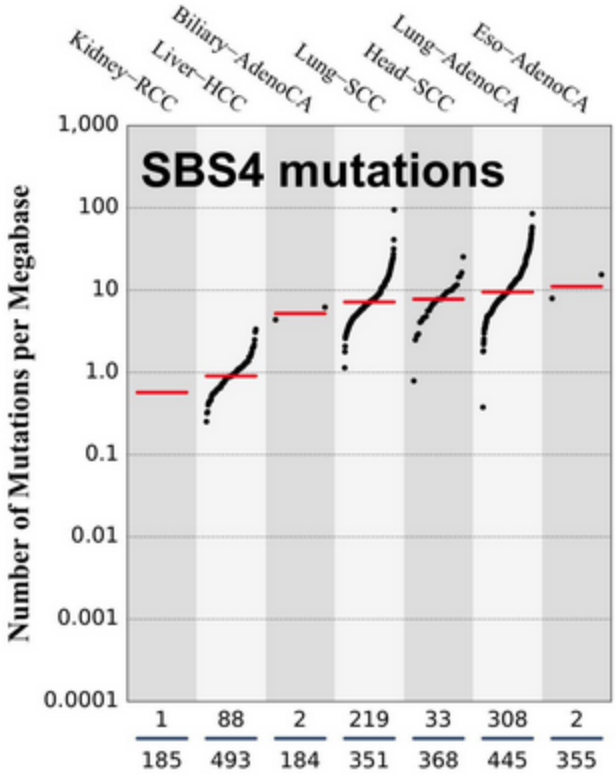
Top 5 prostate cancer mutated genes



Top 5 skin cancer mutated genes

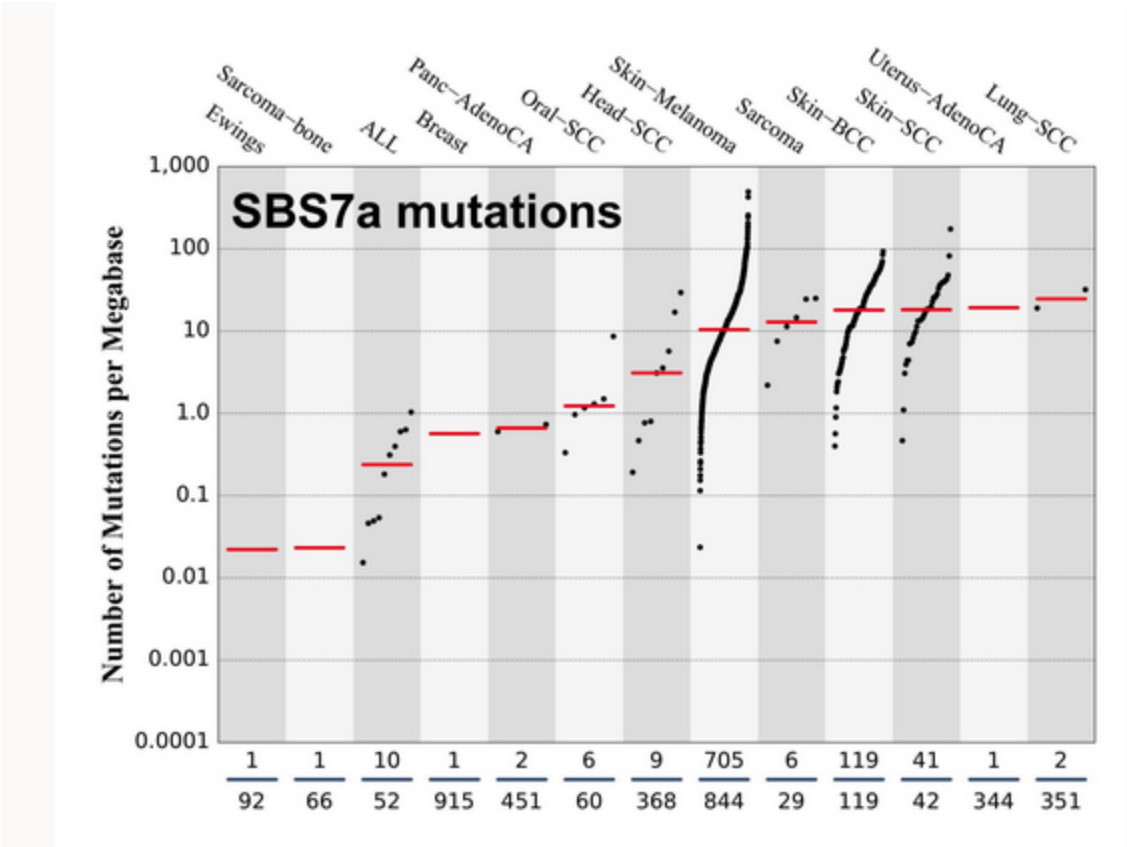


2. The mutational signature of tobacco use is SBS4 and it can best be described as a mutation of a very wide variety of genes,cells and tissues. My hypothesis for why this is is that cigarettes vary immensely and there are hundreds of different carcinogens present whenever an individual smokes. So as a result the mutations resulting from tobacco use are not isolated to a few specific areas. The tissues affected are shown below



as we can see the mutations from tobacco use seem to affect the liver as well as other areas where we would expect, like the Lung-SCC, Head-SCC and lung-adenoCA, where cigarette smoke most usually comes into contact directly with the human body

As for SBS mutational signature for sunlight AKA ultraviolet light exposure, we see the exact opposite as with tobacco use. The mutations resulting from ultraviolet light are very specific in nature, and my hypothesis for why this is is because sun only comes into contact with our skin, unlike cigarette smoke that goes into your body. The tissues affected by the SBS7a mutation is shown below



We can see the enormous emphasis on various mutations involving the skin.