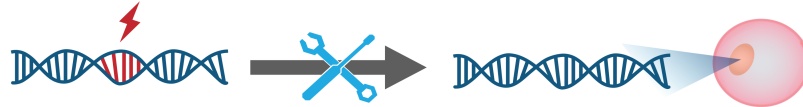


Supplemental Figure 2

In healthy cells, these mutations are repaired by the DNA Repair Proteins



If the DNA Repair pathways are defective, these mutations go unresolved and can accumulate, increasing the mutational load

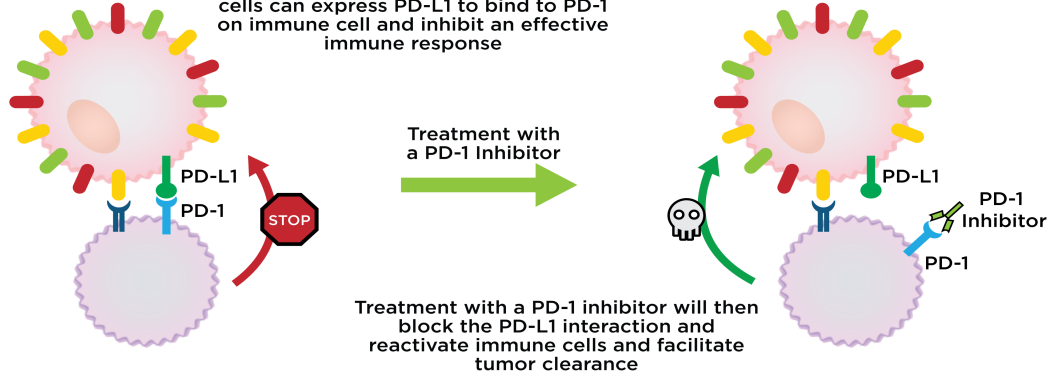


These somatic mutations can lead to the generation of neoantigens, expressed on the tumor cells



The Neoantigens are potentially immunogenic and trigger reognition and killing by the host immune system

In order to evade immune attack, tumor cells can express PD-L1 to bind to PD-1 on immune cell and inhibit an effective immune response



Treatment with a PD-1 inhibitor will then block the PD-L1 interaction and reactivate immune cells and facilitate tumor clearance

Measuring the Tumor Mutation Burden is a surrogate measure of the neoantigenic load and is a potential biomarker for predicting efficacy of immune checkpoint inhibitor

Supplemental Figure 2. Tumor mutational burden as a surrogate measure of neoantigenic load. The accumulation of somatic mutations can trigger normal cells to become cancerous. These mutations are varied in nature, being single nucleotide variants or insertion-deletion events, and can be cumulatively measured and quantified as TMB. This emerging biomarker has been linked to predicting response to immune checkpoint inhibitor therapies in some tumor types.