

## Tumor Suppressor and Oncogene Research Activity

Follow the instructions below to fill in the table at the end of this activity.

1. Go to the OncoKB web page: <https://oncokb.org/>
2. Enter a tumor suppressor gene name in the 'Gene Name/Alteration' search box.
3. Click on the link to the background information about this gene (upper left quadrant) and read about the gene and the function of the protein it encodes.
4. Look at the bar graph in the upper right quadrant that shows the cancer types that cancer-causing mutations of this gene are found in. How many cancer types have mutations in this gene?
5. Look at the Annotated Mutation Distribution (lollipop) to visualize the locations of mutations along the protein encoded by this gene. How many mutations are shown? (Hint: the number of annotated alterations is shown under the lollipop. Alteration = Mutation).
6. Does this page list 'Clinically Relevant Mutations' as opposed to 'All Mutations'?
7. Mouse over the area above the right hand side of the lollipop to find the color codes button. Click on this button to show the key explaining which color represents which type of mutation. Is there one type of mutation that is found most often in this gene? Do the mutations cluster in any specific regions?
8. Explore meaning of [levels](#) and drug treatment options. Are there drug treatment options listed for cancers caused by mutant forms of this gene?
9. Google the treatment options to see how they work.
10. Repeat steps 1-7 for an oncogene.

Fill in the table below with the information you obtain from OncoKB.

	Tumor Suppressor Gene	Oncogene
Gene Name		
Number of Cancer Types with Mutations in this Gene		
Number of Known Mutations in this Gene		
Number of Clinically Relevant Mutations		
How are the mutations distributed along the gene?		
What are the available treatment options, if available?		