# Lymphoma CNV Analysis

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What is Lymphoma?
Lymphoma is cancer that often develops within one or more lymph nodes in the lymphatic system. It starts when white blood cells called lymphocytes grow and divide uncontrollably. Lymphocytes are an important part of the body's natural defense (immune) system. They help to protect against infections, among other functions. Lymphocytes circulate throughout the body in both the blood and the lymphatic system.
The lymphatic system is a network of lymph nodes and vessels (lymphatics) that drain fluids from the body's tissues and carry them as "lymph" through the body and back to the bloodstream. Lymph nodes are found singly and in chains along the lymphatic vessels, in areas that include the neck, armpits, chest, abdomen, and groin. The nodes filter lymph fluid, destroying any microbes and abnormal cells that may be present. Lymph nodes contain different types of lymphocytes: T-lymphocytes help control the immune system. They initiate the immune response, control how big or small it should be, and shut it down when it is not needed. In addition, they recognize foreign substances and process them for removal. B-lymphocytes make antibodies. Antibodies are proteins produced in response to infections and help fight infections, such as measles, mumps, or hepatitis. Natural killer (NK) cells make up about 10-15% of total lymphocytes in the blood. NK cells attack and "kill" abnormal cells such as cancer cells or those infected with viruses. Any one of these cells or a combination of them can be involved in lymphoma. As they grow out of control, abnormal lymphocytes can begin to outnumber normal cells in the lymph node, leading to an enlarged lymph node. The abnormal cells can eventually spread (metastasize) to one or more other lymph nodes and related organs, including the spleen, bone marrow, tonsils, adenoids, and thymus. Besides lymph nodes, lymphoma can also develop in various other tissues and internal organs such as the stomach, intestine, and brain.
There are two main types of lymphoma. B-cell lymphomas are more common than T-cell lymphomas. NK cell lymphoma is very rare.

In this Analysis we will be focusing on the analysis of various types of Lymphomas, such as:
- NCIt:C4337 - Mantle Cell Lymphoma
- NCIt:C80280 - Diffuse large B-Cell Lymphomas, not otherwise specified
- NCIt:C3167 - Acute Lymphoblastic Leukemia

ERBB2

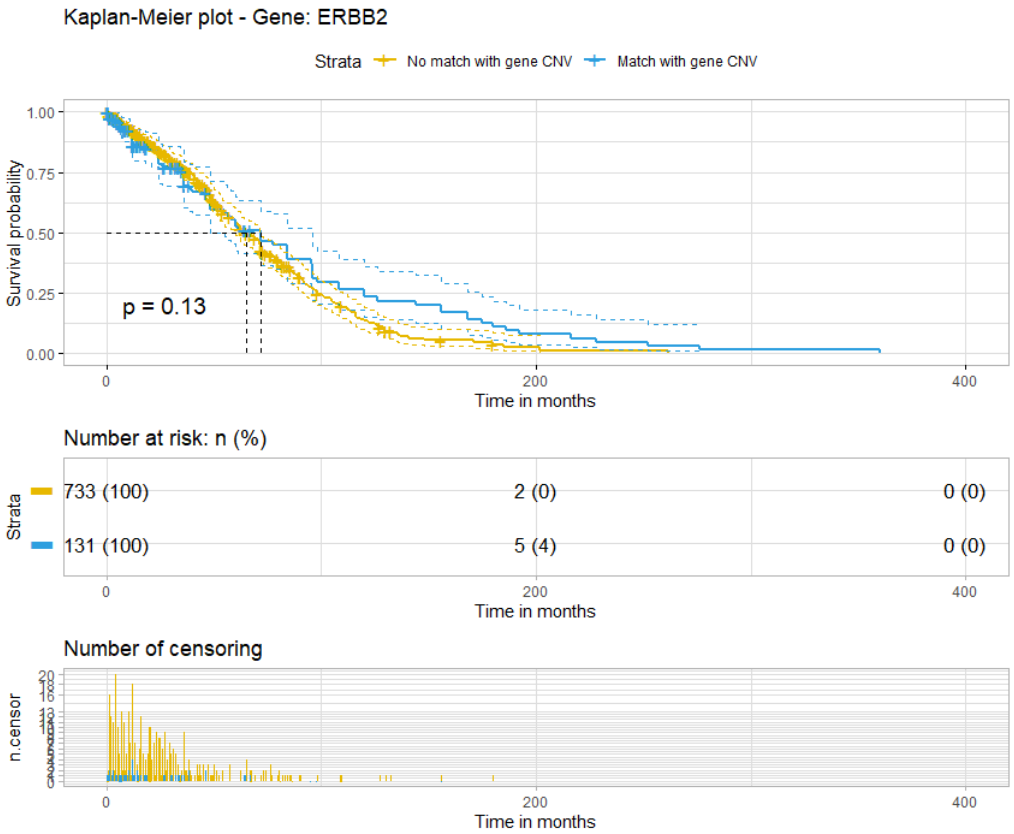


***Figure 1:*** *Kaplan-Meier plot for gene ERBB2.*

TP53

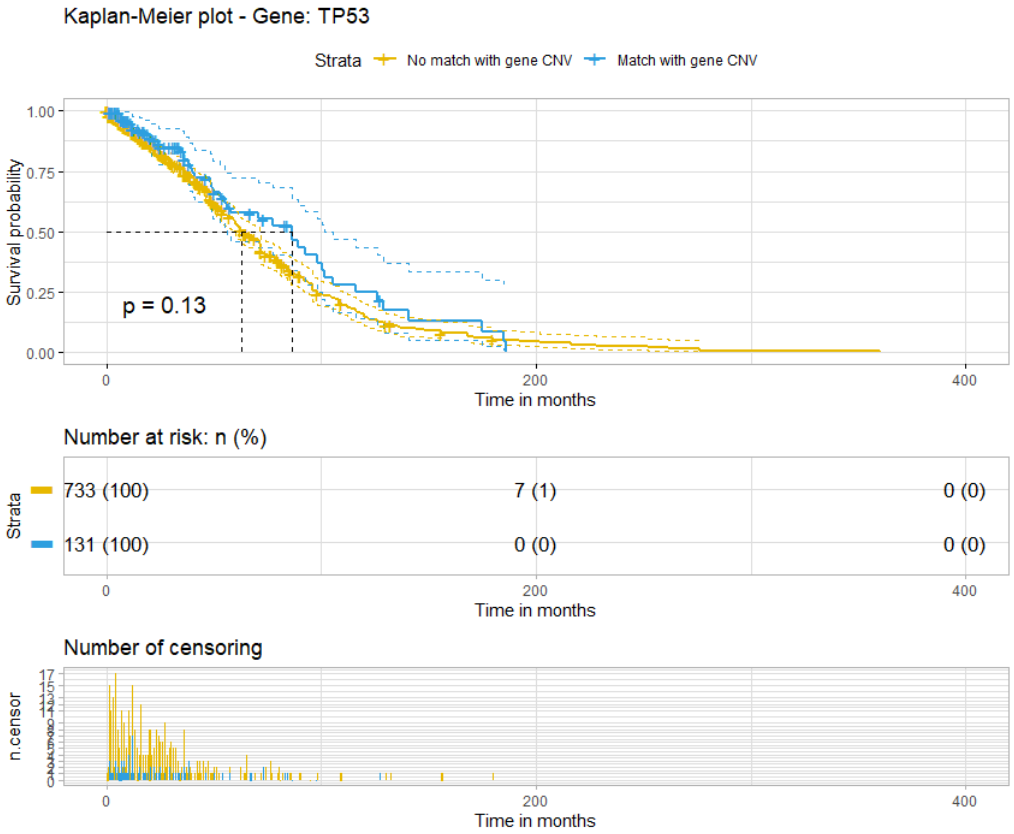


***Figure 2:*** *Kaplan-Meier plot for gene TP53.*

MYC

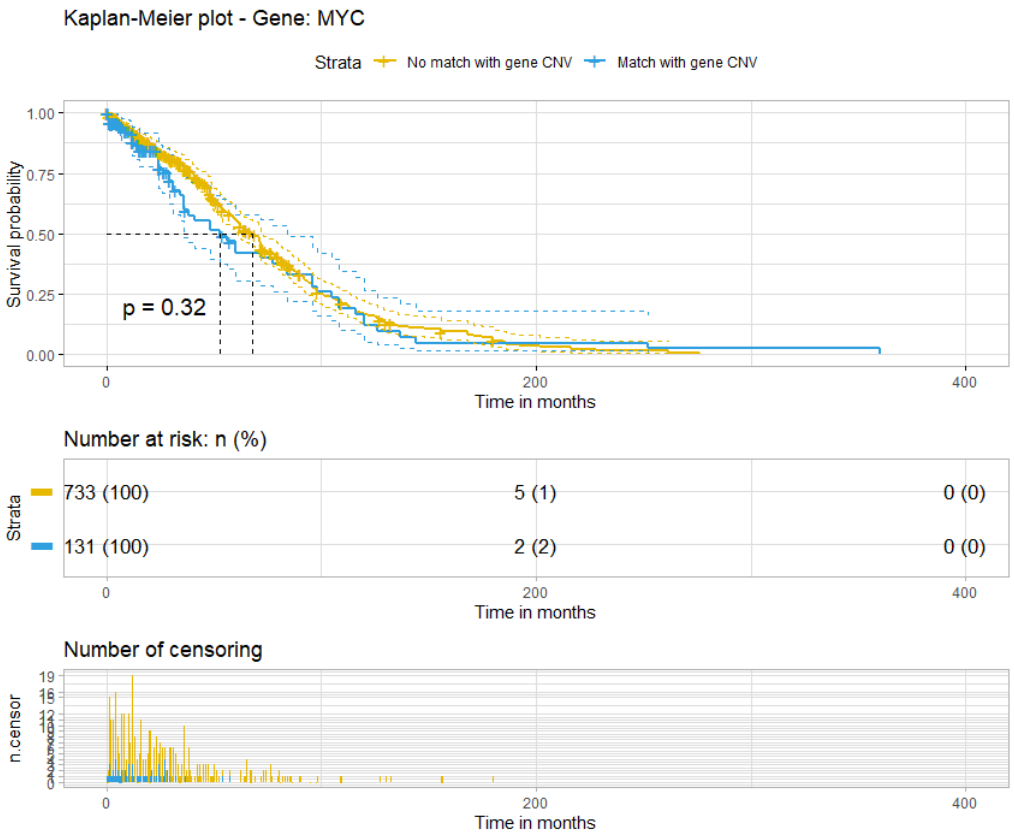


***Figure 3:*** *Kaplan-Meier plot for gene MYC.*

CDKN2A

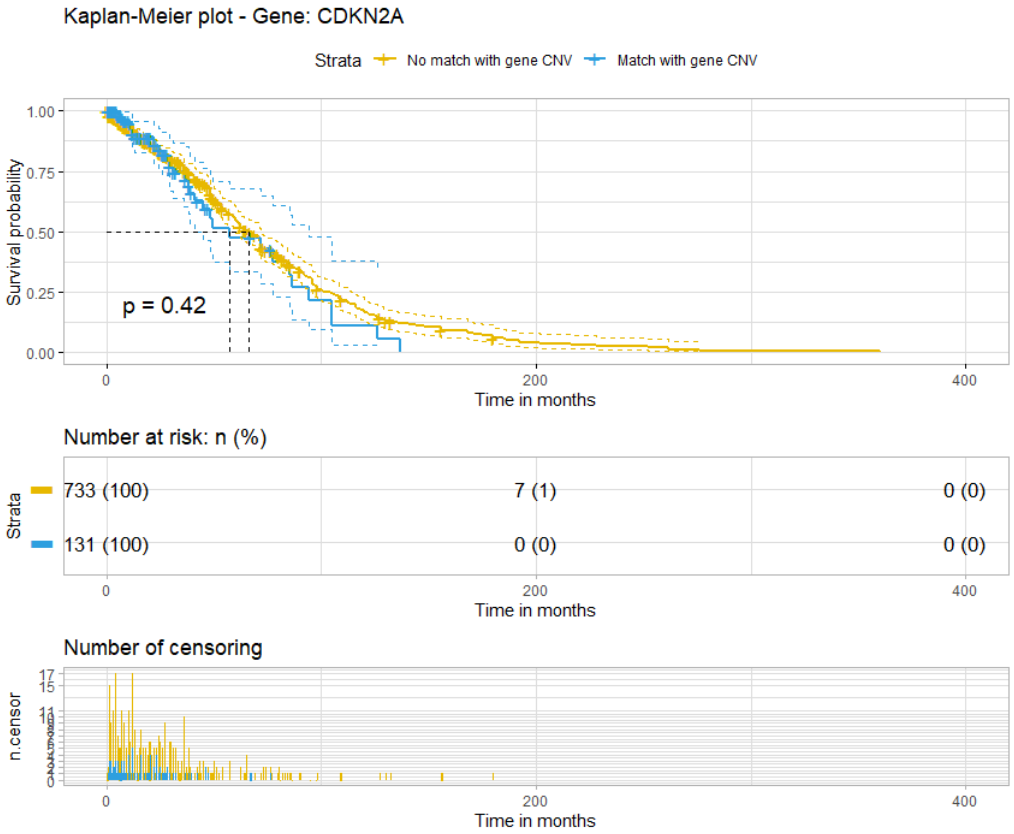


***Figure 4:*** *Kaplan-Meier plot for gene CDKN2A.*

CNV Fraction

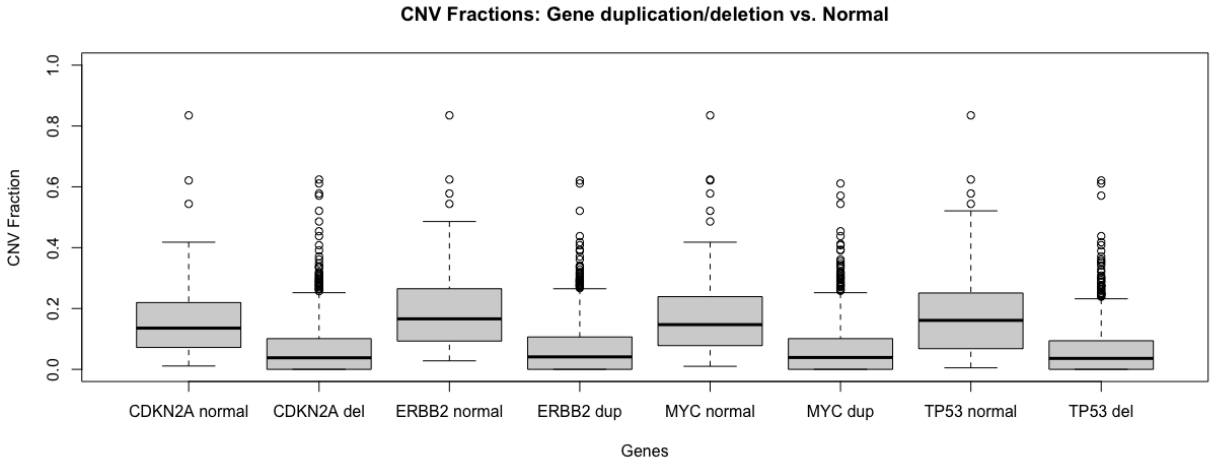


***Figure 5:*** *CNV fraction plot.*

Deletion Fraction

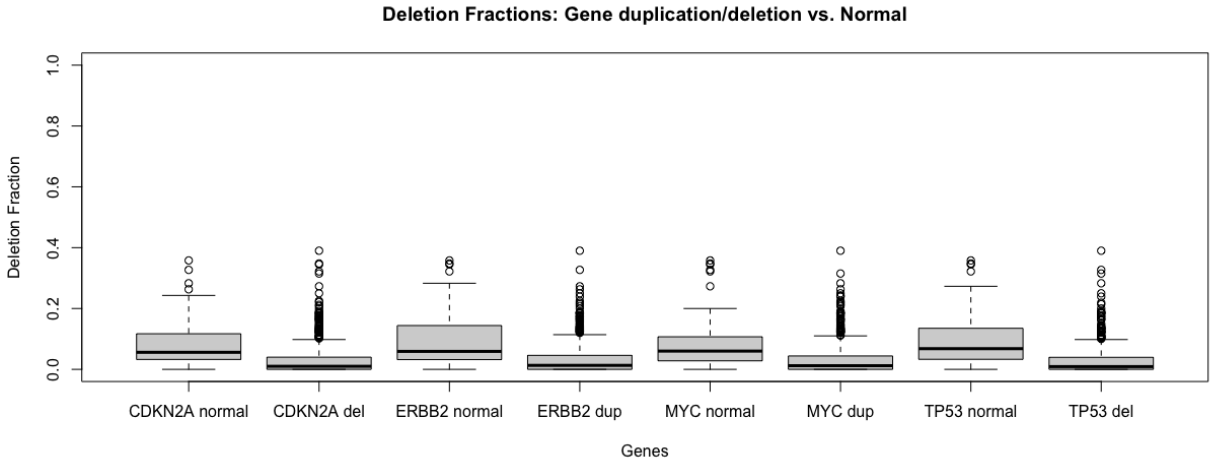


***Figure 6:*** *Deletion fraction plot.*

Duplication Fraction

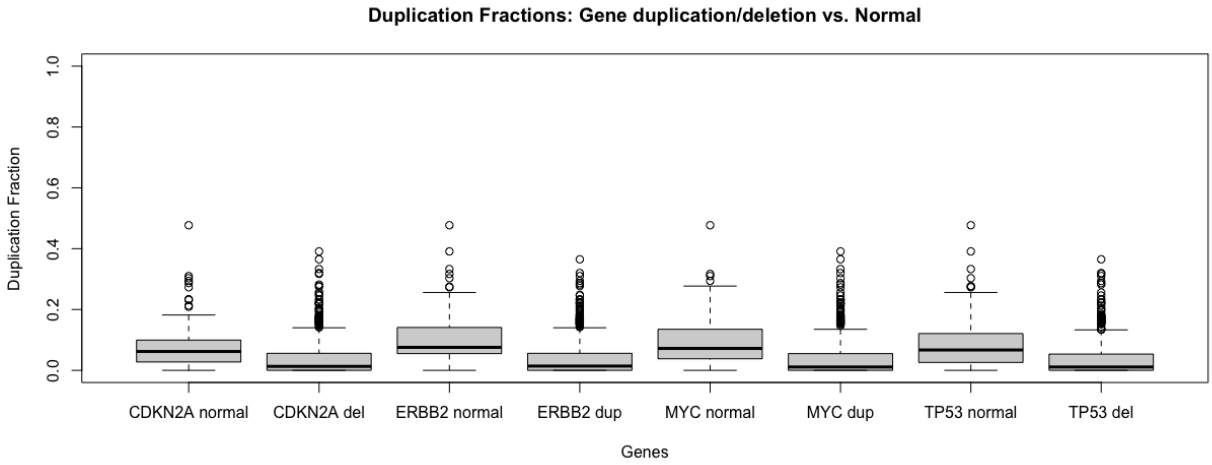


***Figure 7:*** *Duplication fraction plot.*

NCIt:C80280

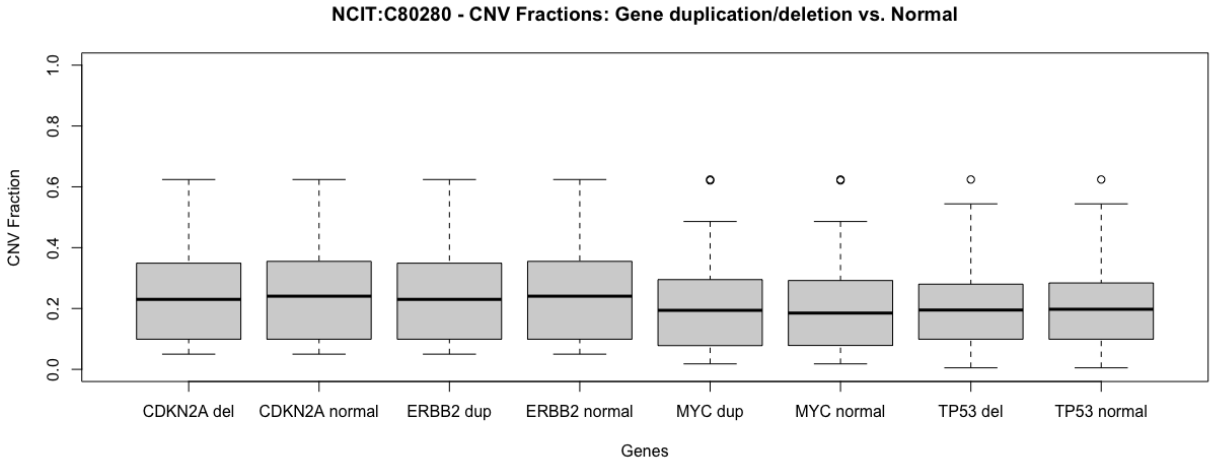


***Figure 8:*** *NCIt:C80280 CNV fractions.*

NCIt:C3167

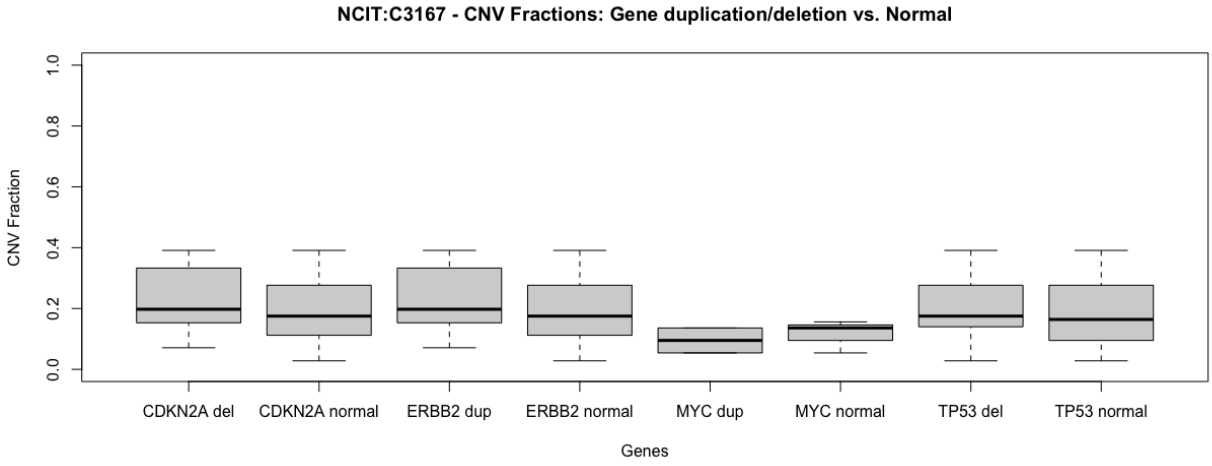


***Figure 9:*** *NCIt:C3167 CNV fractions.*

NCIt:C4337

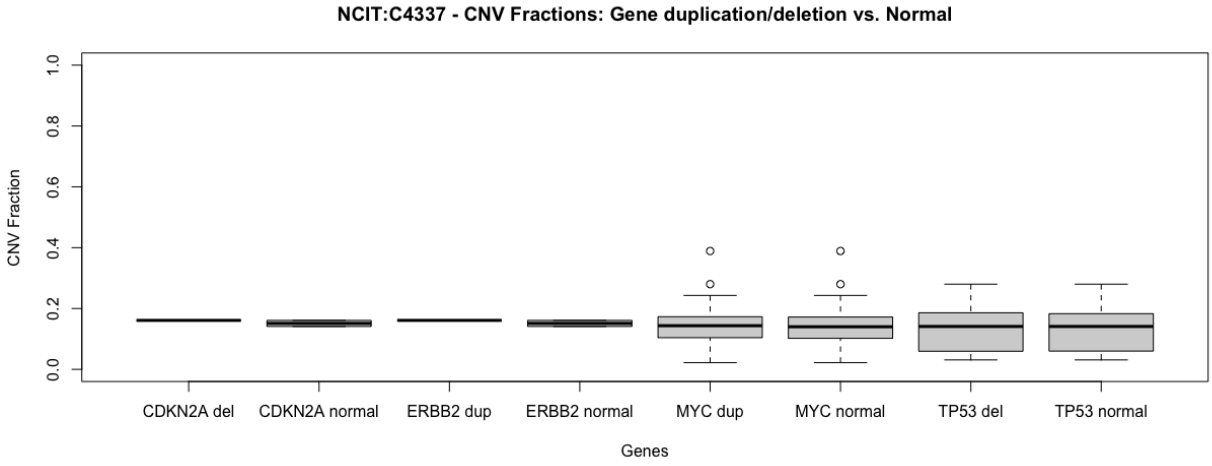


***Figure 10:*** *NCIt:C4337 CNV fractions*