Researchers are learning more about what makes lung cancer cells form, grow, and spread. Every cell in the body has the same library of genes that acts as the blueprint for everything else that makes up a cell and makes it work. In cancer cells, damage to these genes (mutations) is responsible for the cells becoming cancerous. Some of these mutations create proteins in cells that act like a stuck gas pedal in your car to make it drive out of control. These mutant proteins in cancer cells are good “targets” for new drugs. These drugs are known as **TARGETED THERAPIES**.

Targeted therapies work by blocking these mutant proteins, which prevents them from growing and spreading, while not harming normal cells. **Tarceva® (Erlotinib), Gilotrif® (Afatinib), Xalkori® (Crizotinib) and Zykdia® (Ceritinib)** are examples of FDA-approved drugs that target the mutated proteins, some of which are referred to as “receptors” that are driving the cancer cells out of control.

**WHAT ARE TARGETED THERAPIES?**

For more information on targeted therapies and clinical trials, please visit [Lung Cancer Foundation of America](http://www.LCFAmerica.org) and make a donation.

To support lung cancer research, please go to [www.LCFAmerica.org](http://www.LCFAmerica.org) and make a donation.
What is immuno-oncology and how is it different from targeted therapies?

Targeted therapies are drugs that specifically target mutational changes in cancer cells. They work by blocking signaling pathways that cancer cells use to grow and spread. Some examples of targeted therapies include 

- EGFR inhibitors
- ALK inhibitors
- Tyrosine kinase inhibitors (TKIs)
- VEGF inhibitors

On the other hand, immuno-oncology treatments work by enhancing the body’s immune system to attack cancer cells.

Are any blood tests available for targeted therapies?

VeriStrat® is a serum (blood) test that can be performed on patients to assess their likelihood of benefiting from Tarceva®. If a patient tests positive for the EGFR mutation, there is a higher likelihood that the patient will respond to Tarceva® treatment. If a patient tests negative, the likelihood of benefit is lower.

Other immunotherapy and immuno-oncology treatments are usually done as an outpatient procedure and do not require a blood test.