



Understanding targeted therapies and Molecular testing

What is a targeted therapy?

Cancer grows and spreads by cells dividing. This is controlled by chemical processes within the cell which send a signal to start the division process. Sometimes a drug can be designed that blocks this chemistry; this is called a targeted therapy. Targeted therapies are also sometimes called biological therapies. There are various types of targeted therapies used to treat lung cancer. Each works in a different way to stop the growth and spread of cancer.

Targeted therapies only work for some people with non-small cell lung cancer. To find out if a targeted therapy may be suitable for you as the first type of treatment you receive, cancer doctors will have to test some of your cancer cells. This test is called either molecular or mutation testing.

If you have already had another type of drug treatment for non-small cell lung cancer, a targeted therapy may be used as a second or third type of treatment you receive. In this case, molecular testing is sometimes not needed.

Targeted therapies aren't a cure for lung cancer. However, they may stop the growth of your cancer and sometimes even shrinks the tumour and lengthen your life. They may also help improve your quality of life, for example, by reducing coughing, making your breathing easier and helping to reduce pain.

“My consultant said we're going to put you on a targeted therapy. I've started taking one tablet every day, and I'd say eight weeks after that began, I was able to go shopping and meet people and say I feel a lot better now.”

Liz

Molecular testing

Why do you need molecular testing?

As well as being divided into different types, some non-small cell lung cancers also have specific characteristics based on what is wrong with the actual gene affected – these are called mutations.

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The currently best known mutations of non-small cell lung cancers are called: epidermal growth factor receptor (EGFR), anaplastic lymphoma kinase (ALK), and KRAS. All of these mutations have one thing in common: they lead to uncontrolled cell growth and tumour formation. These mutations are also known as cancer biomarkers.

There are various different types of targeted therapy which work for different biomarkers. If you have inoperable non-small cell lung cancer and have an identifiable biomarker, you may be offered a targeted therapy as a first type of treatment for lung cancer.

How is molecular testing done?

Your cancer doctor will have already taken tissue to diagnose your lung cancer. If possible, pathologists in the hospital laboratory will use this existing tissue to test for mutations. This may take a few days after your original diagnosis. Sometimes you may need to have an extra biopsy performed if there is not enough tissue in the original sample to undertake the molecular test.



GIVING HELP AND HOPE

The charity has two aims:

Supporting people living with lung cancer - Working closely with lung cancer nurses, we provide information, run lung cancer support groups and offer telephone and online support. Our patient grants offer some financial help to people affected by lung cancer.

Saving lives - We fund lung cancer research, campaign for better treatment and care for people who have lung cancer, and raise awareness of the importance of early diagnosis. Our lung cancer prevention work helps people to quit smoking and encourages young people not to start smoking.

Call us on 0333 323 7200 (option 2)

This information has been taken from the following sources:
Lung cancer—answering your questions: Targeted therapies for lung cancer 2014