

Understanding the ALK Biomarker

What are non-small cell lung cancer biomarkers?

Biomarkers are changes or mutations in or on cancer cells that make them different from healthy cells. These changes can help cancer cells grow and spread. Biomarkers are found through biomarker testing, which can then guide diagnosis and treatment choices.

Biomarker testing for non-small cell lung cancer (NSCLC) should be done at diagnosis and when a new treatment is needed. Repeat testing is important to identify new biomarkers and ensure that the best possible treatment is offered.

What is the ALK biomarker?

ALK (**A**naplastic **L**ymphoma receptor tyrosine **K**inase) is a gene that's normally only active before birth. In some people, the ALK gene joins or fuses with a different gene. This causes the ALK gene to become active again and cells to begin growing out of control, causing cancer. When this happens in the lung, it is called ALK-positive NSCLC.

ALK-positive NSCLC:

- Occurs in about 5 out of every 100 cases (5%) of NSCLC.
- Most often occurs in a subtype of NSCLC called adenocarcinoma.
- About half of ALK-positive cancers are found in people who are under 50 years old and most don't have a history of smoking.
- At diagnosis, about 3 out of every 10 cases (30%) find lung cancer in the brain.

Did you know?

There are many different types of ALK fusions that may cause lung cancer. The most common occurs when ALK fuses with another gene called EML4. Recent studies show that your exact type of fusion may affect how you respond to treatment. Knowing your specific mutation is an important part of understanding your treatment plan.

Targeted therapy for ALK-positive lung cancer

Targeted therapies are special types of treatments that “target” cancer cells based on the biomarkers that make them different from healthy cells. They are commonly used for stage IV (stage 4) NSCLC, but may be used earlier depending on your specific diagnosis. FDA-approved targeted therapies to treat ALK-positive lung cancer are:

Biomarker	Brand Name (Generic Name)
ALK fusions	Alecensa (alectinib)
	Alunbrig (brigatinib)
	Ensacove (ensartinib)
	Lorbrena (lorlatinib)
	Xalkori (crizotinib)
	Zykadia (ceritinib)

Everyone is different. While ALK-targeted therapies are highly effective, the exact treatment your healthcare team recommends may include a targeted therapy and surgery, radiation, chemotherapy, or immunotherapy.

Questions to ask your healthcare team

- How do I know which targeted therapy is right for me based on my ALK fusion?
- Will I need more than one type of treatment?
- What side effects should I expect from my recommended treatment option?
- Are there clinical trials for ALK that I should consider?

Resources and support

For more information about lung cancer, current treatments and trials, or support, please contact **G02 for Lung Cancer** by calling our HelpLine at **1-800-298-2436**, emailing support@go2.org, or visiting go2.org.

For dedicated support, education, and community for those living with ALK-positive lung cancer, please contact **ALK Positive** by visiting alkpositive.org, or emailing info@alkpositive.org.

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