Clinical Study Results

Research Sponsor: F. Hoffmann-La Roche Ltd.

Drug Studied: Atezolizumab

Short Study Title: A study to learn about using the drug atezolizumab as a treatment for patients with non-small cell lung cancer

Thank you!

Thank you for taking part in the clinical study for the study drug atezolizumab. You and all of the participants helped researchers learn more about using atezolizumab as a treatment for patients with non-small cell lung cancer, also called NSCLC.

F. Hoffmann-La Roche sponsored this study and thinks it is important for you to know the results of the study. An independent, nonprofit organization called CISCRP and a medical writing organization called Synchrogenix helped prepare this summary of the results for you.

We hope this helps you understand the results and makes you feel proud of your important role in medical research. If you have questions about the results, please speak with your doctor, research nurse, or other team member at your clinic or hospital.

What is happening with the study now?

Your study started in January 2014 and is still going on. A total of 667 patients from 106 clinics and hospitals in 19 countries participated in this study.

The sponsor reviewed the results as of May 2015 and created a report of the results. This is a summary of that report.

Why was the research needed?

Researchers were looking for a different way to treat NSCLC. In this study, researchers wanted to learn more about using the study drug atezolizumab as a treatment for patients with NSCLC. Researchers also wanted to find out if participants had any medical problems during the study.

Your body's infection-fighting system, called the immune system, naturally fights cancer cells. Atezolizumab makes cancer cells weaker against your immune system by blocking a protein called PD-L1. So, atezolizumab may help your body stop tumors from growing, or even reverse the process.

Certain chemotherapy medicines that contain a metal called platinum are usually the first choice to treat NSCLC. But some patients still get worse after this treatment. In this study, researchers compared how atezolizumab worked in patients who had not yet tried chemotherapy medicines to how it worked in patients who had previously tried platinum-containing chemotherapy medicines and other chemotherapy medicines.

The main questions researchers wanted to answer in this study were:

- How many patients' tumors shrank or disappeared completely after atezolizumab treatment?
- If patients' tumors shrank or disappeared, how long did the patients live until their cancer got worse?
- How long did atezolizumab prevent patients' cancer from getting worse?
- How many patients lived for 6 months during the study?
- What adverse events did patients have? An adverse event is a medical problem that may or may not be caused by the study drug.

What kind of study was this?

Your study was "open-label". This means that the patients, doctors, and study staff knew what drugs patients were getting. All patients in this study got atezolizumab.

Your study included women and men with NSCLC whose tumors were positive for PD-L1 and who were between the ages of 28 and 88 years. Some patients in this study had not yet tried any chemotherapy for their NSCLC, while other patients' NSCLC had gotten worse during or after previous treatment with chemotherapy medicines containing platinum, as well as other chemotherapy medicines.

What happened during the study?

Before the study began, the study doctors checked your health to make sure you could join the study. This included a physical exam, checking your heart health, and taking blood and urine samples from you.

The study doctors also:

- Checked your cancer by taking images of the tumors using either magnetic resonance imaging scans, also called MRIs, or computed tomography scans, also called CTs.
- Checked that your tumors were positive for PD-L1.
- Asked about your lung cancer symptoms, how you were feeling, and what medicines you were taking.

Some of the 667 patients left the study before it ended. A total of 659 patients were split into 3 groups based on their previous cancer treatments:

- **Group 1:** 139 patients had not yet tried any chemotherapy medicines.
- **Group 2:** 267 patients had their NSCLC get worse during or after previous treatment with a chemotherapy medicine containing platinum.
- **Group 3:** 253 patients had their NSCLC get worse during or after more than 2 previous treatments with chemotherapy medicines, 1 of which contained platinum.

During the study, you got atezolizumab intravenously once every 3 weeks. This means the treatment was injected into a vein using a needle. The study doctors took images of your tumors to see if and how they were responding to the treatments.

The chart below shows how treatments were given in your study.

	659 patients got atezolizumab
	You got treatment for as long as you could tolerate treatment and your study doctor felt that treatment was helping you
	Each injection was 1200 "mg", which is also called "milligrams"

During the study, the study doctors checked your tumors every 6 weeks for the first year, and then every 9 weeks afterwards. The study doctors asked you how you were feeling, what medicines you were taking, and how your NSCLC symptoms were. If you left the study, you had a final follow-up visit within 30 days of your last dose.

What were the study results?

Below is a summary of the results as of May 2015 of some of the questions that researchers asked during this study. It is important to know that researchers and regulatory health authorities look at the results of many studies to decide which medicines work best and are safest for patients.

A full list of the questions researchers wanted to answer can be found on the websites listed at the end of this summary. If a full report of the study results is available, it can also be found on these websites.

How many patients' tumors shrank or disappeared completely after atezolizumab treatment?

Researchers wanted to know how many patients' tumors shrank or disappeared completely after atezolizumab treatment based on the patients' previous chemotherapy treatment. Researchers also wanted to know if this number of patients was different based on whether patients' tumors had higher levels of PD-L1 or lower levels of PD-L1.

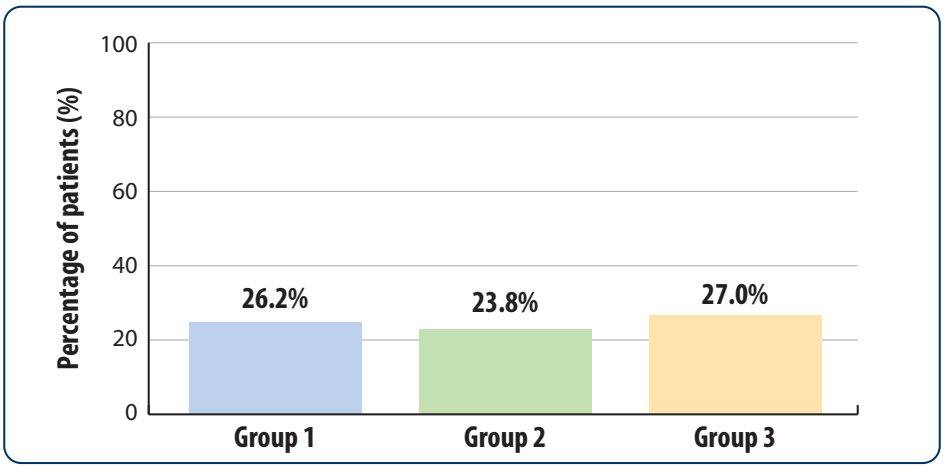
Higher levels of PD-L1

In patients with higher levels of PD-L1, researchers found the following:

Group 1 No previous chemotherapy	26.2%, or 17 of 65 patients, had their tumors shrink or disappear.
Group 2 1 platinum-containing chemotherapy medicine	23.8%, or 29 of 122 patients, had their tumors shrink or disappear.
Group 3 More than 2 chemotherapy medicines	27.0%, or 31 of 115 patients, had their tumors shrink or disappear.

The chart below shows these results.

Percentage of patients with higher PD-L1 levels whose tumors shrank or disappeared



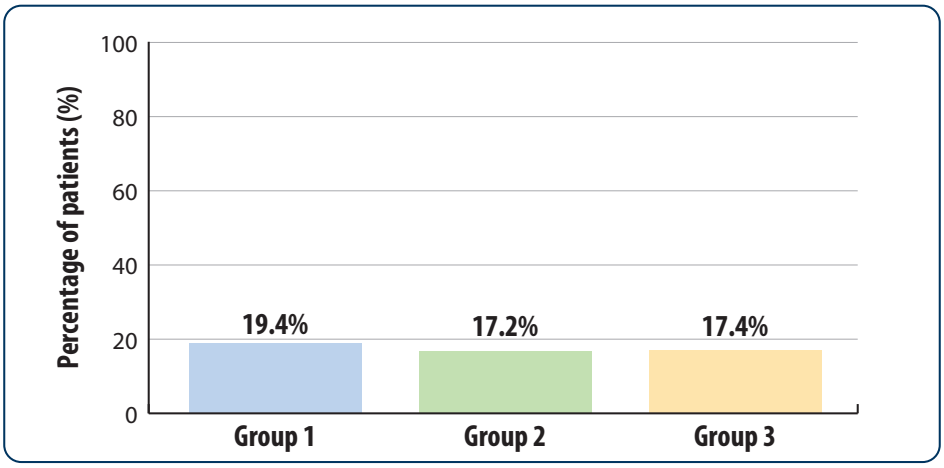
Lower levels of PD-L1

In patients with lower levels of PD-L1, researchers found the following:

Group 1 No previous chemotherapy	19.4%, or 27 of 139 patients, had their tumors shrink or disappear.
Group 2 1 platinum-containing chemotherapy medicine	17.2%, or 46 of 267 patients, had their tumors shrink or disappear.
Group 3 More than 2 chemotherapy medicines	17.4%, or 44 of 253 patients, had their tumors shrink or disappear.

The chart below shows these results.

Percentage of patients with lower PD-L1 levels whose tumors shrank or disappeared



It is important to know that the results above were for the main question researchers asked. This study was designed to get the most accurate answers to the main question.

The results below are for other questions researchers asked in order to learn more about the drug and disease. But, more studies need to be done to know if the answers to these questions are accurate.

If patients' tumors shrank or disappeared, how long did the patients live until their cancer got worse?

Researchers measured the "median" length of time that patients whose tumors shrank or disappeared lived before their cancer got worse. The median time means that half of the patients lived less than this length of time, and half lived longer. Researchers found the following:

Higher levels of PD-L1

- Researchers could not test this in **Group 1 patients** or **Group 2 patients** because their cancer did not get worse by the time the data were analyzed.
- **Group 3 patients** whose cancer shrank or disappeared lived for about 7.2 months before their cancer got worse.

Lower levels of PD-L1

- **Group 1 patients** whose cancer shrank or disappeared lived for about 8.5 months before their cancer got worse.
- **Group 2 patients** whose cancer shrank or disappeared lived for about 8.4 months before their cancer got worse.
- **Group 3 patients** whose cancer shrank or disappeared lived for about 8.4 months before their cancer got worse.

How long did atezolizumab prevent patients' cancer from getting worse?

Researchers also measured the median time that atezolizumab prevented all patients' cancer from getting worse.

They found the following:

Higher levels of PD-L1

- **Group 1 patients** lived for about 5.5 months before their cancer got worse.
- **Group 2 patients** lived for about 4.1 months before their cancer got worse.
- **Group 3 patients** lived for about 4.2 months before their cancer got worse.

Lower levels of PD-L1

- **Group 1 patients** lived for about 5.5 months before their cancer got worse.
- **Group 2 patients** lived for about 2.8 months before their cancer got worse.
- **Group 3 patients** lived for about 2.8 months before their cancer got worse.

How many patients lived for 6 months during the study?

Researchers also wanted to know how many patients lived for 6 months during the study. They found the following:

Higher levels of PD-L1

- 79.2% of **Group 1 patients** lived for 6 months during the study.
- 79.7% of **Group 2 patients** lived for 6 months during the study.
- 75.1% of **Group 3 patients** lived for 6 months during the study.

Lower levels of PD-L1

- 81.7% of **Group 1 patients** lived for 6 months during the study.
- 76.2% of **Group 2 patients** lived for 6 months during the study.
- 70.5% of **Group 3 patients** lived for 6 months during the study.

What medical problems did patients have during the study?

When new drugs are being studied, study doctors keep track of all of the medical problems that patients develop during the study. These medical problems are called "adverse events" and may or may not be caused by the study drug. An adverse event is considered serious when it is life threatening, makes you go to the hospital, or causes lasting problems.

How many patients had adverse events during the study?

Out of the 667 patients who enrolled in the study, adverse events were studied for the 659 patients who got at least 1 dose of atezolizumab. Most patients had at least 1 adverse event. A similar percentage of patients in all treatment groups had adverse events and serious adverse events. Some patients stopped taking the study drugs because of a serious adverse event. The table below shows how many patients had adverse events during this study.

Adverse events in this study

	Group 1 (Out of 139 patients)	Group 2 (Out of 267 patients)	Group 3 (Out of 253 patients)	Total (Out of 659 patients)
How many patients had at least 1 adverse event?	91.4% (127)	92.1% (246)	96.4% (244)	93.6% (617)
How many patients had at least 1 serious adverse event?	30.9% (43)	36.0% (96)	37.2% (94)	35.4% (233)
How many patients stopped taking any study drug because of an adverse event?	5.8% (8)	5.6% (15)	4.3% (11)	5.2% (34)

What were the most common serious adverse events?

In this study, pneumonia was the most common serious adverse event. The table on the next page shows the most common serious adverse events that happened in at least 2.0% of patients in any treatment group. There were other serious adverse events, but fewer patients had them.

Serious adverse events in this study

	Group 1 (Out of 139 patients)	Group 2 (Out of 267 patients)	Group 3 (Out of 253 patients)	Total (Out of 659 patients)
Pneumonia	2.2% (3)	2.6% (7)	4.7% (12)	3.3% (22)
Difficulty breathing	2.2% (3)	1.5% (4)	4.3% (11)	2.7% (18)
Inflammation in the lungs	1.4% (2)	3.0% (8)	2.0% (5)	2.3% (15)
Fever	0.0% (0)	3.0% (8)	2.8% (7)	2.3% (15)

Some patients in each group died within 30 days of their last dose:

- 7.9% in Group 1 died. This happened in 11 of the 139 patients.
- 8.6% in Group 2 died. This happened in 23 of the 267 patients.
- 11.5% in Group 3 died. This happened in 29 of the 253 patients.

Study doctors thought that most of these deaths were due to patients' cancer getting worse. Some patients died because of adverse events within 30 days of their last dose:

- 1.4% of patients in Group 1 died from adverse events within 30 days of their last dose. This happened in 2 of the 139 patients.
- 4.5% of patients in Group 2 died from adverse events within 30 days of their last dose. This happened in 12 of the 267 patients.
- 3.6% of patients in Group 3 died from adverse events within 30 days of their last dose. This happened in 9 of the 253 patients.

Study doctors thought that 1 death from an adverse event in Group 3 might be related to study treatment. This patient died from a respiratory infection.

What were the most common adverse events?

In this study, tiredness was the most common adverse event. The table below shows the most common adverse events that happened in at least 20.0% of patients in any of the 3 treatment groups. There were other adverse events, but fewer patients had them.

Most common adverse events in this study

	Group 1 (Out of 139 patients)	Group 2 (Out of 267 patients)	Group 3 (Out of 253 patients)	Total (Out of 659 patients)
Tiredness	32.4% (45)	27.7% (74)	33.2% (84)	30.8% (203)
Decreased appetite	23.0% (32)	17.6% (47)	27.3% (69)	22.5% (148)
Cough	23.7% (33)	16.9% (45)	26.1% (66)	21.9% (144)
Difficulty breathing	25.9% (36)	15.7% (42)	25.7% (65)	21.7% (143)
Nausea	18.7% (26)	22.8% (61)	21.3% (54)	21.4% (141)

What is important to know about these results?

In this study, researchers learned more about atezolizumab as a treatment for patients with NSCLC. Further clinical studies with atezolizumab are going on.

Doctors and researchers look at results of many studies to decide which drugs work best and are safest for patients. The results presented here are for a single study. Other studies may provide new information or different results.

Where can you learn more about this study?

You can find more information about your study on the websites listed below.

- www.clinicaltrials.gov. Once you are on the website, type **"NCT02031458"** into the search box called **"Other Terms"**. Then, click **"Search all studies"**.
- www.clinicaltrialsregister.eu. Once you are on the website, click **"Home and Search"**. Then, type **"2013-003330-32"** in the search box and click **"Search"**.

If you have questions about the results, please speak with the doctor, research nurse, or other team member at your clinic or hospital.

Please also refer to the informed consent form you signed before joining this study for more details about your study.

The full title of your study is: A Phase II, Multicenter, Single-Arm Study of MPDL3280A in Patients with PD-L1-Positive Locally Advanced or Metastatic Non-Small Cell Lung Cancer

The protocol number of your study is: GO28754

F. Hoffmann-La Roche sponsored this study. Its address and contact information are:
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Thank you

Clinical study participants belong to a large community of people who take part in clinical research around the world. They help researchers answer important health questions and find medical treatments for patients. Thank you for the gift of your participation in clinical research.

CISCRP
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The Center for Information & Study on Clinical Research Participation (CISCRP) is a non-profit organization focused on educating and informing the public about clinical research participation. CISCRP is not involved in recruiting patients for clinical studies, nor is it involved in conducting clinical studies.

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