

### Understanding molecular response

During and after treatment for CML, you have regular blood tests to measure the level of the *BCR-ABL1* gene in your blood. This is a good measure of how much leukaemia is in your body. It is called **molecular monitoring**. It is done using a very sensitive test called PCR.

The results are called your molecular response. It can be used to detect any difficulties in treatment early on.

#### What do my molecular response results mean?

There are different levels of molecular response.

##### MR1:

Less than 1 in 10 white blood cells (10%) has the *BCR-ABL1* gene.



##### MR2:

Less than 1 in 100 white blood cells (1%) has the *BCR-ABL1* gene. This is the equivalent of **complete cytogenetic response** on chromosome tests, and this is what your team might call it.



##### MR3:

Less than 1 in 1,000 white blood cells (0.1%) has the *BCR-ABL1* gene. This is sometimes called a **major molecular response** (MMR).



##### MR4:

Less than 1 in 10,000 white blood cells (0.01%) has the *BCR-ABL1* gene. This is sometimes called a **deep molecular response** (DMR).

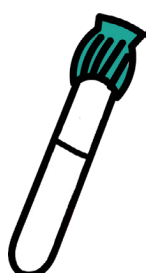


##### MR5:

Less than 1 in 100,000 white blood cells (0.001%) has the *BCR-ABL1* gene. This is also called a deep molecular response.



Levels below MR5 cannot usually be detected. This is called a **complete molecular response** (CMR).



## What should my molecular response be?

Response to treatment is different in every person with CML. The ideal goal is to reach:

- MR1 within 3 months of starting treatment
- MR2 within 6 months of starting treatment
- MR3 within 12 months of starting treatment

Some people can have a slower response and may not necessarily reach MR3 after 12 months.

If you do not reach these milestones, your haematology team might suggest changing your treatment. This may allow you to reach a deeper response.

If your *BCR-ABL1* levels have dropped but you haven't quite met the milestones, you may be in a 'warning' category. Your haematology team will talk to you about this. They may suggest carrying on your current treatment, increasing your dose, or changing to a different treatment.

## What if I lose my molecular response?

If you respond to treatment at first but your *BCR-ABL1* level starts to go back up, your haematology team will talk to you about your treatment options. They may suggest increasing your dose, or changing to a different treatment.

For [more information about CML](#), follow the link, search 'CML' at [www.leukaemiacare.org.uk](http://www.leukaemiacare.org.uk) or scan the QR code. This also includes information on ordering free booklets via our online shop.



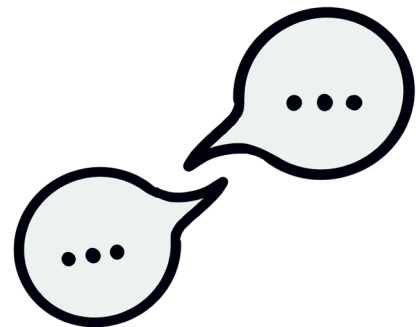
If you have any feedback, or you'd like a list of the references we used to create this factsheet, please email [information@leukaemiacare.org.uk](mailto:information@leukaemiacare.org.uk) or call **01905 755977**.

[We're here for you if you need support](#). Scan the QR code, click the link or search 'support for you' at [leukaemiacare.org.uk](http://leukaemiacare.org.uk) to find out what we offer.



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