Guidelines for EuroMRD participantship (Ph⁺ALL section)

Gold standard treatment for Philadelphia chromosome-positive acute lymphoblastic leukemia (Ph⁺ALL) is systemic chemotherapy combined with tyrosine kinase inhibitors followed by allogeneic stem cell transplantation. Several study groups offer multicenter trials. For a better comparability of results of the different study trials, EuroMRD implemented QA rounds for this fusion target. Therefore, Ph⁺ALL laboratories are participants of EuroMRD and follow the general participantship guidelines as detailed below.

EuroMRD has defined the following guidelines for participantship of the Ph⁺ALL section:

A. Extensive knowledge on RQ-PCR for fusion transcripts

- Possibilities and limitations
- Samples handling
- Control samples
- Sensitivity testing
- Interpretation of RQ-PCR results (according to EuroMRD guidelines)

B. Extensive experience in RQ-PCR for MRD detection

Evidence of experience to provide reliable RQ-PCR-based MRD results. At least 25 Ph⁺ALL patients completely analyzed, of which at least 5 in parallel with an EuroMRD laboratory, before participantship application.

C. Size of MRD laboratory and minimum number of ALL patients per year

1. *Statement by chairman of national treatment protocol concerning central MRD laboratory.*
   - MRD diagnostics according to guidelines of EuroMRD
   - sufficient experience level of MRD laboratory (at least 25 patients completely analyzed, including 5 patients in full parallel to an EuroMRD laboratory)

2. *An MRD laboratory should consist of at least one scientist and preferably at least two technicians* in order to guarantee sufficient supervision, continuity, sample throughput, and quality control. One technician can handle 30-40 ALL or 60-80 NHL patients per year depending on the number of targets and follow-up samples investigated.

3. *Preferably an MRD laboratory should cover a population of at least 10 to 12 x 10^6 inhabitants* (or a country, in case of lower number of inhabitants).

4. *Preferably at least 20 Ph⁺ALL should be evaluated for protocol-based MRD per year* to maintain a *sufficiently high experience level*. For reasons of efficiency and costs, preferably more patients should be evaluated per laboratory.

D. Continuation of EuroMRD participantship

1. *Continuous participation in EuroMRD meetings and QA rounds.* Each EuroMRD laboratory is obliged to participate in the 6-monthly QA rounds and in the corresponding EuroMRD meetings. Failure to participate in two consecutive QA rounds/meetings will terminate the EuroMRD participantship. Only by exception and with explanation, the EuroMRD participantship can be continued.

2. *Size of MRD team*. Each EuroMRD laboratory should have sufficient supervision and continuity in order to guarantee sufficiently high quality and experience level.

3. *Annual number of new patients*. A minimum of 20 new patients should be evaluated each year to maintain a sufficiently high experience level, unless the EuroMRD Board decides otherwise for an individual case. Preferably more patients should be evaluated per laboratory.

4. *Two-year evaluation of EuroMRD participantship.* Every two years the status of the EuroMRD participantship will be evaluated for all participants via the form "*Continuation of EuroMRD Participantship*".

Questions about the EuroMRD Participantship can be sent to info@euromrd.org