EuroFlow MM MRD EQA scheme 2026

Contents

The EuroFlow MM MRD EQA scheme

The objective of the Multiple Myeloma Measurable Residual Disease (MM MRD) external quality assessment (EQA) scheme is to provide an external control on data analysis and interpretation of real life MRD samples from patients with MM after therapy. The scheme is based on the Next Generation Flow (NGF) for MM MRD methodology (Flores-Montero et al., 2017) and it consists of a dry part only.

Participants are provided with 3 MM MRD cases (2 FCS files per case) by ESLHO. These FCS data files are generated by EuroFlow-affiliated laboratories using the NGF for MM MRD methodology applied to bone marrow samples from patients with MM during post treatment follow-up. For full compliance with NGF recommendations, participants are advised to analyze the files using the BD Infinicyt™ software and automated gating & identification (AG&I) analysis tool and database. Alternative analytical software may be used; however, files will only be validated for analysis with BD Infinicyt™. Therefore, we cannot guarantee compatibility with other software. Participants who encounter issues analyzing files with software other than Infinicyt are advised to contact ESLHO, so we can look for a solution.

Participants report their conclusions for several parameters, including the percentage of aberrant plasma cells present in each sample, distribution of plasma cells and other cell populations, the calculated analytical sensitivity, the phenotypic pattern of aberrant plasma cells, an interpretation regarding MRD status, and the overall conclusion of the analysis as for a diagnostic report. All EQA results are submitted by the participants via an online results form in the ESLHO EQA Portal.

As EQA provider, ESLHO offers the MM MRD scheme in collaboration with the EuroFlow EQA Committee. The EuroFlow EQA Committee is composed of members of the EuroFlow Consortium (www.euroflow.org).

Two rounds of the MM MRD scheme are offered in 2026: one in spring and one in autumn.

Data analysis, reference values, and participant performance

Data analysis, scoring participant performance, and preparation of the reports are carried out by qualified and experienced experts within the EuroFlow Consortium.

The reference values of each MM MRD case are defined by the lead expert based on the consolidated results of analysis by (typically) three experts per case. The reference result is defined as follows:

- **Quantitative parameters**: the mean value of the experts' results.
- **Qualitative parameters**: the mode value of the experts' results. In case a mode value cannot be assigned, the lead expert value will prevail.
    - **Interpretation for the clinician**: The summarized reference interpretation is established by the lead expert and is based on the experts' conclusions.

For each case, participant performance is scored as either **Satisfactory**, **Warning**, or **Critical** based on the comparison of each participant's results to the reference result across the three main parameters (**LoD**, **LoQ**, and the **percentage of aberrant plasma cells** detected), as well as the qualitative conclusion derived from these parameters (i.e., **MRD status**), categorized as "MRD Negative", "MRD Positive but not quantifiable", or "MRD Positive".
Performance for the remaining quantitative and qualitative parameters is not scored. Instead, participants can compare their results to the reference result of the 3 MM MRD cases.

Each participating laboratory will be provided with an EQA certificate that includes a performance report, a summary of the round's results, general information regarding the round, and an overview of common mistakes. Note that individual performance is specific to and only provided to the individual participant.

Educational meeting

All EuroFlow schemes' EQA rounds offered in 2026 will be concluded with an online educational meeting, which will include all rounds performed throughout the year. During the meeting, the rounds' results will be shown (anonymized), possible problems and pitfalls will be discussed, and there will be the opportunity to receive direct feedback from the experts involved. More information regarding the educational meeting, including dates and times, will be announced at the end of 2026.

Timelines

Activity	**Date**
Registration for rounds 1 & 2 (spring & autumn)	5 Jan – 30 Jan 2026 (23:59 CET)
Round 1: Release of round instructions	2 Feb 2026
Round 1: Reporting of results	2 Feb – 27 Feb 2026 (23:59 CET)

Round 1: Release of certificates (v1)	May 2026
Round 1: Appeals period	21 calendar days following release of certificates (v1)
Round 1: Release of certificates (final)	Jun – Jul 2026

Activity	**Date**
Registration for round 2 (autumn)	1 Jun – 28 Aug 2026 (23:59 CEST)
Round 2: Release of round instructions	31 Aug 2026
Round 2: Reporting of results	31 Aug – 25 Sep 2026 (23:59 CEST)
Round 2: Release of certificates (v1)	Jan 2027
Round 2: Appeals period	21 calendar days following release of certificates (v1)
Round 2: Release of certificates (final)	Feb - Mar 2027

Registration

Registering for the EuroFlow MM MRD EQA scheme 2026 can be done via the ESLHO EQA Portal.

Appeals

Appeals regarding performance results can be submitted within 21 calendar days following the release of the EQA certificate (v1) via the ESLHO EQA Portal. A clear description of the appeal should be included and providing illustrating images is recommended.

Complaints

Complaints related to ESLHO's EQA program, or specifically to the EuroFlow MM MRD EQA scheme, can be submitted at any time via the Complaints form that is available on the ESLHO EQA Portal.

Participation fees

- Participation in one MM MRD round: **€ 270,-**
- Participation in both MM MRD rounds: **€ 490,-**
- Participation is free for participants of the EuroFlow Consortium.

Organization

The MM MRD scheme is organized by ESLHO in collaboration with the EuroFlow EQA Committee. The Flow Cytometry Units at the Hematology Department of the University Hospital of Salamanca, and at University of Salamanca (Salamanca, Spain) operate as the lead expert laboratories of the MM MRD scheme, with Dr. Juan Flores-Montero in the role of lead subject-matter expert. The lead expert laboratory receives support from other EuroFlow subject-matter experts for case selection, expert analysis, determination of reference results, data analysis, performance evaluation, and reporting.

Name	Organization/Institute	Role	Tasks
ESLHO			
Prof. Dr. Jacques J. M. van Dongen	ESLHO, Zutphen, NL	EQA Program Coordinator	Final responsibility over EuroFlow EQA program; authorizes the MM MRD round report.
Evelien Rijkers	ESLHO, Zutphen, NL	EQA Officer (lead)	Overall responsible for organization and operation of the MM MRD scheme by ESLHO.
Dr. Bart Lubbers	ESLHO, Zutphen, NL	EQA Officer	Supports in the organization and operation of the MM MRD scheme.
Lead expert laboratory			
Dr. Juan Flores-Montero	Flow Cytometry Units, Hematology Department of the University Hospital of Salamanca and University of Salamanca, Salamanca, Spain	Lead subject-matter expert	Designed the original MM MRD QA scheme. Expert input on/review of the results and the summary. Responds to participants´ inquiries about the technical aspects of the scheme, and participant results. Provides targeted help to participants.
Additional expert laboratory			
Dr. Naděžda Brdičková	Charles University, Prague, CZ	Subject-matter expert	Pre-round: Supports preparation of the rounds. Post-round: Cleaning and analysis of the submitted results, preparation of the EQA certificate, support in performance evaluation and reporting.

Additionally, the following EuroFlow-affiliated laboratories provide support in case selection, expert analysis, and input for determination of consensus reference results:

- Charles University (Prague, CZ)
- Canton Hospital Aarau (Aarau, CH)
- University of Navarra (Pamplona, ES)
- Champalimaud Foundation (Lisbon, PT)
- Federal University of Rio de Janeiro (Rio de Janeiro, BR)

For more information or in case you have questions about the MM MRD scheme, or other EuroFlow EQA schemes, please contact EuroFlow.EQA@eslho.org.