

# EQ Six Element Calibration Beads

**Catalog number:** 201245  
**Package size:** 100 mL

**Storage:** Store at 2–8 °C.

**Application:** CyTOF<sup>®</sup> XT suspension mass cytometry

## Technical Information

**Description:** EQ<sup>™</sup> Six Element Calibration Beads (EQ6 beads) is a 1X stock solution (used at 0.1X for sample acquisition) of polystyrene bead standards containing known concentrations of the natural abundance metal isotopes yttrium (89Y), indium (115In), cerium (140Ce), terbium (159Tb), lutetium (175Lu), and bismuth (209Bi).

**Application:** The 6-element EQ6 beads solution is intended for the following uses on the CyTOF XT<sup>™</sup> system:

- Tuning the instrument.
- Normalizing CyTOF mass cytometry data by using a bead-based passport containing global dual count values for bead elements specific to EQ6 beads and a mathematical correction algorithm in the CyTOF Software to correct for signal variation that may occur in the instrument over time.

**Recommended use:** To ensure reliable results with EQ6 beads, we recommend the following usage guidelines.

**IMPORTANT** Before each use, vigorously shake or vortex the EQ6 beads for at least 30 sec to ensure that the solution is homogeneous. Load a fresh aliquot of EQ6 beads at the start of each day of acquisition.

- Instrument tuning and pelleted samples: Load a sufficient volume of 1X EQ6 bead stock solution into Autosampler carousel Location 14 of the CyTOF XT system. See Applicable Protocols for details.
- Suspension samples: Dilute EQ6 beads to 0.1X in Maxpar<sup>®</sup> Cell Acquisition Solution Plus for CyTOF XT (Maxpar CAS Plus, 201244) and temporarily store the diluted beads at 2–8 °C for same-day use. See Applicable Protocols for details.

## Important Product Notes

- To minimize contamination of the 1X stock solution of EQ6 beads:
    - Use a new filtered pipette tip to transfer or carefully pour only the volume of beads you need for immediate use.
    - Do not store undiluted beads in a container (other than the 1X stock solution bottle) for more than 24 hr.
    - Make sure to tightly close the 1X stock solution bottle when not in use and store at 2–8 °C.
  - Sample preparation for acquisition differs based on sample format:
    - Pelleted samples: Select **Pellet** format in the acquisition protocol. By default, **Add Beads** is checked for pelleted samples. Pellets are resuspended in 0.1X EQ6 beads diluted in Maxpar CAS Plus.
    - Suspension samples: Select **Suspension** format in the acquisition protocol. When **Add Beads** is unchecked in the acquisition protocol, prepare sufficient volume of 0.1X EQ6 beads diluted in Maxpar CAS Plus for acquisition of suspension samples. We do not recommend the use of more dilute or more concentrated beads.
- NOTE** When **Add Beads** is checked for a suspension sample, the Autosampler spikes in 10% of the resuspended suspension format sample volume using 1X EQ6 beads to create a final concentration of 0.1X EQ6 beads in the sample.
- Prior to the start of all batch acquisitions that require EQ6 beads to be added to the samples, confirm that carousel Location 14 contains a sufficient volume of 1X EQ6 beads stock solution.
  - The default acquisition template (.tem) includes the required channels for EQ6 beads. When creating a custom acquisition template, select **EQ6 beads** as the bead detection type. Based on this selection, the EQ6 bead filtering channels (89Y, 115In, 140Ce, 159Tb, 175Lu, and 209Bi) and monitoring channels (113In, 142Ce, 156Gd, 160Gd, 174Hf, and 176Lu) are automatically included in the acquired file.

## Applicable Protocols

Before using this product, refer to the following instructions for more information:

- Instrument tuning and data normalization: See the integrated Help content (FLDM-00045, installed with CyTOF Software v8.0).
- Preparing samples for acquisition: Search for the applicable Maxpar cell staining protocols available at [fluidigm.com](https://fluidigm.com).

## Safety

Use standard laboratory safety protocols. Read and understand the safety data sheets (SDSs) before handling chemicals. To obtain SDSs, go to [fluidigm.com/sds](https://fluidigm.com/sds) and search for SDS-00024.

**For technical support visit [techsupport.fluidigm.com](https://techsupport.fluidigm.com). | For general support visit [fluidigm.com/support](https://fluidigm.com/support).**

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