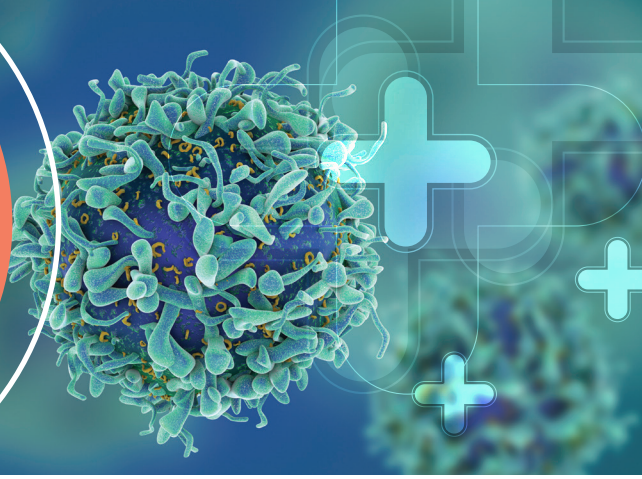
BD® OMICS-Guard Sample Preservation Buffer

Simple one-step short-term sample preservation solution



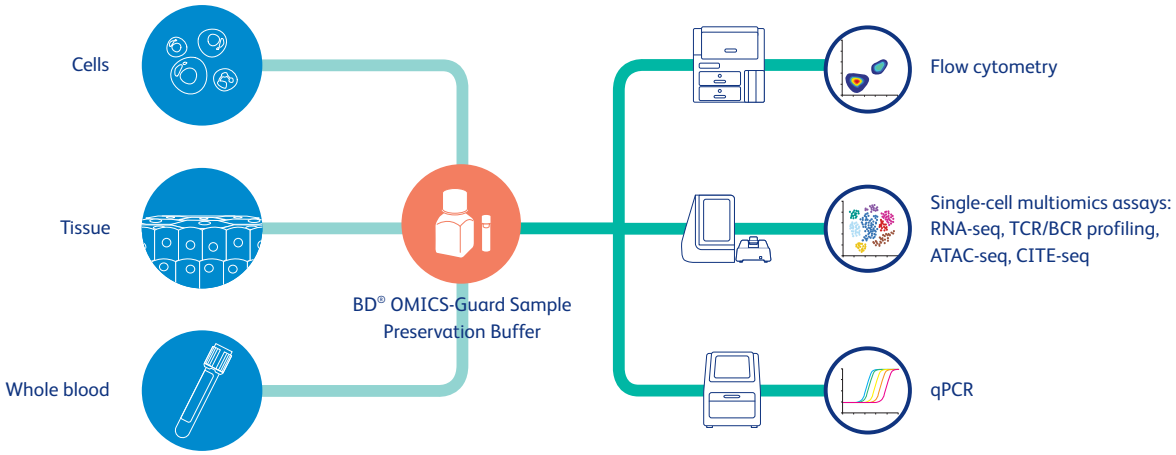
The BD® OMICS-Guard Sample Preservation Buffer (SPB) provides a flexible, simple short-term biological sample storage solution when samples cannot be processed immediately or need to be transported between study sites. This one-step preservation buffer keeps your samples intact for up to 72 hours, protecting RNA, DNA and protein integrity and alleviating concerns about sample degradation that could affect your research.

Key features

- Simple one-step preservation protocol with minimum hands-on time
- Preserves cells for a variety of downstream transcriptomic, epigenetic, proteomic and multiomic applications including RNA-seq, CITE-seq, TCR/BCR profiling, multiomic ATAC-seq,* flow cytometry and qPCR
- Protects cell integrity and preserves different cell populations in your samples for up to 72 hours at 4 °C
- Compatible across multiple sample types: PBMCs, bulk tissue samples and whole blood samples
- Available in two, easy-to-use formats: 50-mL bottle or 12 x 1-mL vials

*BD® OMICS-Guard SPB can be used to preserve single cells prior to nuclei isolation for ATAC-seq assays. We do not recommend preserving nuclei samples with BD® OMICS-Guard SPB for ATAC-seq assays.

Versatile applications of the BD® OMICS-Guard Sample Preservation Buffer



Product usage instructions

	Single-cell suspension	Tissue	Whole blood
Recommended usage	10,000 to 10 million cells/1 mL BD® OMICS-Guard SPB	30 to 50 mg of tissue/20 mL BD® OMICS-Guard SPB	1:1 ratio of whole blood (with EDTA) and BD® OMICS-Guard SPB
Storage temperature	4 °C		
Storage duration	Up to 72 h		
Buffer handling	BD® OMICS-Guard SPB should be used under aseptic techniques to prevent contamination of the stock buffer. We recommend working under a laminar flow hood.		
Sample preservation protocol	**1** Collect single cells/dissociated single cells in suspension and spin at 400 x *g* for 5 min. **2** Discard supernatant and resuspend the cells in the BD® OMICS-Guard SPB as recommended above. **3** Place cells at 4 °C for up to 72 h. **4** After storage, spin cells at 800 x *g* for 5 min and discard the supernatant to remove the BD® OMICS-Guard SPB. No further washing is required. **5** Resuspend the cells in desired buffer for downstream applications.	**1** Cut tissue into 30–50 mg pieces and immediately place them into the BD® OMICS-Guard SPB. **2** Place the preserved tissue at 4 °C for up to 72 h. **3** After storage, dissociate the tissue by the desired method for your single-cell application. **4** Resuspend the cells in desired buffer for downstream applications.	**1** Collect whole blood using EDTA as an anti-coagulant and mix with the same volume of BD® OMICS-Guard SPB by inverting 10 times. **Note:** It may be possible to use other anti-coagulants though they have not been tested. **2** Place the whole blood and BD® OMICS-Guard SPB mixture at 4 °C for up to 72 h. **3** After storage, isolate desired cells. **a.** Leukocytes: use a magnetic red blood cell depletion kit to remove the red blood cells and isolate PBMCs and granulocytes. **b.** PBMCs: use density gradient separation methods (e.g., STEMCELL SepMate™ PBMC Isolation Tubes). **4** Spin the isolated cells at 200 x *g* for 7 min to remove platelets. **5** Resuspend cells in desired buffer for downstream applications.

The BD® OMICS-Guard Sample Preservation Buffer is a PFA-free reagent.

Protocol for CITE-seq applications

BD® OMICS-Guard SPB allows antibody staining before or after sample preservation. For CITE-seq applications using BD® AbSeq Antibody-Oligos and/or BD® OMICS-One Protein Panels **after** sample preservation, use of the BD® AbSeq Enhancer Kit (Cat. No. 570750) is highly recommended. BD® AbSeq Enhancers can be added to the BD Fc Block™ Reagent step or used separately prior to single-cell staining with the antibody-oligo cocktail.

Note: Staining with the antibody-oligo panel **before** sample preservation or staining with the BD® Single-Cell Multiplexing Kit **only** after sample preservation does not require the use of the BD® AbSeq Enhancer Kit.

Staining protocol using human PBMC

1 Prepare the Human BD Fc Block™ Reagent as follows:

Component	Volume/sample (µL)	Volume/sample with overage (µL)
Stain buffer	65	78
BD Pharmingen™ Human BD Fc Block™ Reagent	5	6
Total	70	84

2 To the 70 µL Human BD Fc Block™ Reagent mixture, add 10 µL of each of the three BD® AbSeq Enhancers for a total of 30 µL.
Note: The Human BD Fc Block™ Reagent and BD® AbSeq Enhancers mixture should have a final volume of 100 µL.

3 Spin the cell suspension from the preserved sample at 800 x *g* and remove the supernatant without disturbing the pellet.

4 Add the 100 µL final mix and resuspend the cell pellet.

5 Incubate the cells at room temperature for 10 minutes.

6 For antibody-oligo staining:

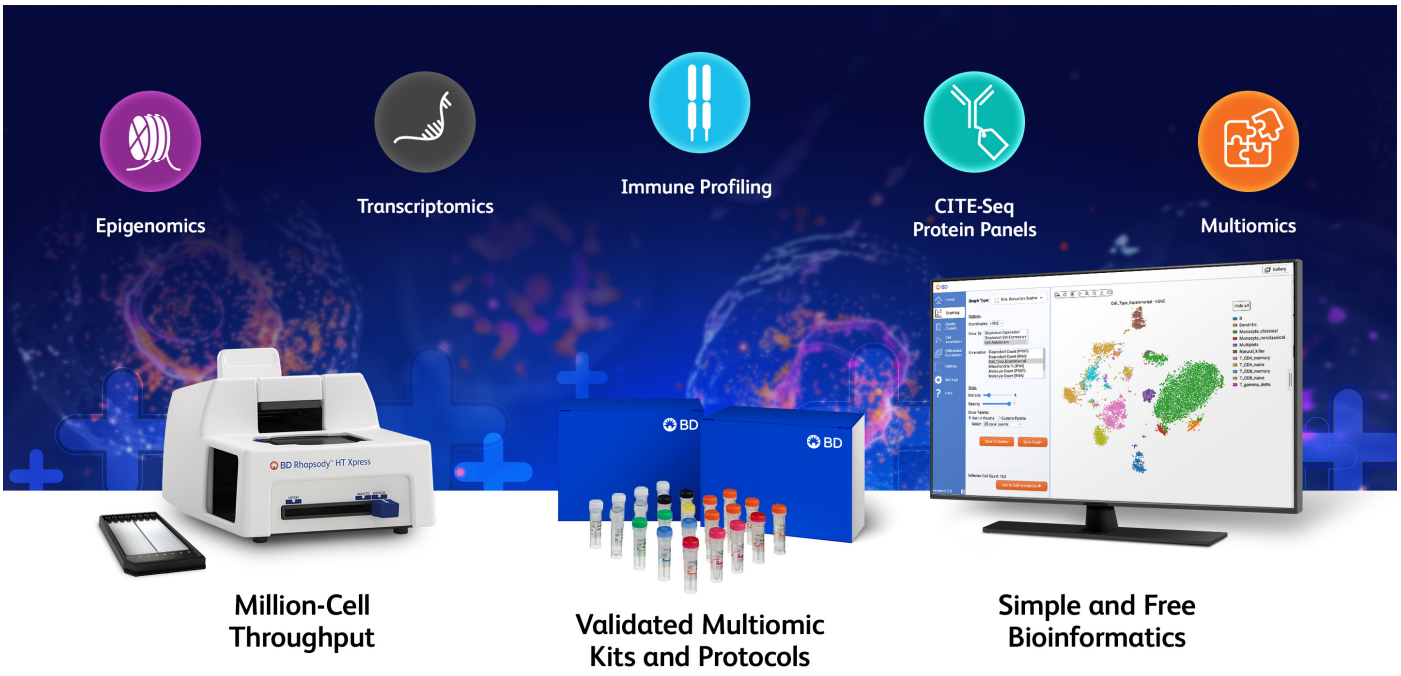
a. To stain with BD® OMICS-One Protein Panels, refer to the applicable panel technical data sheet (TDS) on **bdbiosciences.com**.

b. To stain with BD® AbSeq Antibody-Oligo cocktails, refer to the standard AbSeq staining protocols (100 µL 2X BD® AbSeq Antibody-Oligo labeling MasterMix, incubate 30–60 minutes on ice). See BD Rhapsody™ System Single-Cell Labeling with BD® AbSeq Ab-Oligos Protocol (Doc ID: 23-24262). Note: to stain with >50-plex markers, the Fc Block™/BD® AbSeq Enhancer mix volume will need to be adjusted. Contact **scomix@bd.com** for more information.

For BD Rhapsody™ Single-Cell Analysis System users

For cells/tissues/whole blood preserved in BD® OMICS-Guard SPB, ensure that the lysis time in the single-cell capture workflow is at least 5 minutes (can be longer per specific assay instructions).

Part of a complete single-cell multiomics solution



Million-Cell Throughput

Validated Multiomic Kits and Protocols

Simple and Free Bioinformatics

Ordering information

Description	Size	Cat. No.
BD® OMICS-Guard Sample Preservation Buffer Kit	12 vials/kit, 1 mL/vial	570908
BD® OMICS-Guard Sample Preservation Buffer	50 mL	570911
BD® AbSeq Enhancer Kit	Kit	570750

To request a quote or place an order, visit **bdbiosciences.com/OMICSGuard** or contact your local BD sales representative.

Explore the versatile applications of the BD® OMICS-Guard SPB.

Check out BD Rhapsody™ ATAC-Seq Multiome Assay performance using BD® OMICS-Guard SPB-preserved PBMC samples.

See how the BD® OMICS-Guard SPB was used with our Intracellular CITE-Seq Assay.

Check out BD Rhapsody™ TCR/BCR Next Assay performance using BD® OMICS-Guard SPB-preserved PBMC samples.

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