

CyTOF XT PRO

Introduction

The CyTOF™ XT PRO system is a powerful mass cytometer that enables single-cell high-dimensional proteomic analysis of up to 2,000 cells analyzed per sec for 135 discrete channels.

The integrated Autosampler automates the acquisition of both pelleted and suspension samples with built-in resuspension and dilution capabilities, the addition of internal standards, and inter-sample cleaning. The CyTOF XT PRO system increases productivity with clog detection, automated unclogging, and shutdown.

CyTOF XT PRO Specifications

Instrument Specifications

Description	Specification (instrument)
Channels	135
Mass range	75–209 amu
Abundance sensitivity	<0.3% for M+1 with M = ¹⁵⁹ Tb <0.3% for M–1 with M = ¹⁷⁵ Lu
Instrument response	500 ¹⁵⁹ Tb dual counts/EQ™ Six Element Calibration Bead
Dynamic range	4.5 orders of magnitude
Calibration	Automated
Operating system	Windows 10 Enterprise LTSC
Sample introduction	Dual syringe drive Built-in automatic sampling system with cooling function
Sustained throughput	2,000 events/sec
Flow rate	30 µL/min
Carryover	<1%
Sample format	12 x 5 mL tube positions 1 x 15 mL tube position
Maximum sample volume	4 mL in 5 mL tubes 12 mL in 15 mL tubes

The CyTOF XT PRO system builds on the breadth, depth, and flexibility of mass cytometers to simultaneously measure phenotypic and functional markers. The instrument analyzes individual cells labeled with antibodies tagged with stable metal isotopes. The CyTOF XT PRO system can resolve multiple elemental probes at high acquisition rates, maximizing the per-cell information obtained from a single sample.

The novel design of the CyTOF XT PRO system and the unique benefits of mass cytometry provide the capabilities you need to ignite insight and accelerate your translational, clinical, and discovery research.

Reagent reservoir	Maxpar™ Cell Acquisition Solution Plus for CyTOF XT – 1 L [‡] Maxpar Water – 500 mL Maxpar Washing Solution for CyTOF XT – 500 mL [‡]
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Workstation Specifications

Description	Specification (workstation)
CPU	Intel Core i7
RAM	32 GB DDR4
Data storage	3.6 TB
Power supply	550 W
Monitor	86 cm (34 in) LED
Keyboard/mouse	Wired

Data File Size Specifications

File Type	Size (up to)
.fcs	4 bytes/channel/event
.lmd	Compressed format. 5–20 GB/hr (typical)
_SPR.fcs	3.82 MB/hr
_Beads.fcs	0.91 MB/hr (typical)
_BG.fcs	0.48 MB/hr
_Processed.fcs	4 bytes/channel/event

CyTOF XT PRO Site Requirement Specifications

Dimensions	Width (cm/in)	Height (cm/in)	Depth (cm/in)	Weight (kg/lb)
CyTOF XT PRO instrument	93/37	135/53	75/30	288/635
Electrical*	Maximum Power Draw (VA)	Operating Voltage (V AC)	Operating Frequency (Hz)	Maximum Continuous Current (A)
CyTOF XT PRO instrument	4,000	200–240	50/60	20
Environmental	Operating Temperature† (°C)		Humidity (%)	
CyTOF XT PRO instrument	18–25		20–80 Non-condensing	
Gas	Ultrahigh-Purity Argon (≥99.996% purity)		Flow Rate (L/min)	
CyTOF XT PRO instrument	85 ±5 psi (100 psi max)		15	
Exhaust	Hose Diameter (mm/in)		Flow Rate cfm (L/sec)	Anemometer m/sec (ft/min)
Torch box	100/4		75 ±15 (35 ±7)	5 (917)

* One dedicated electrical branch circuit (single-phase, 30 A single-phase 200–240 V AC, 50/60 Hz) is used to provide power to the CyTOF XT PRO instrument.

† For optimal performance, the temperature should be 20 ±2 °C.

‡ Compatible with CyTOF XT PRO systems.

For technical support visit standardbio.com/tech-support.

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