405|TS
microplate washer

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The Gold Standard of Microplate Washers

BioTek®
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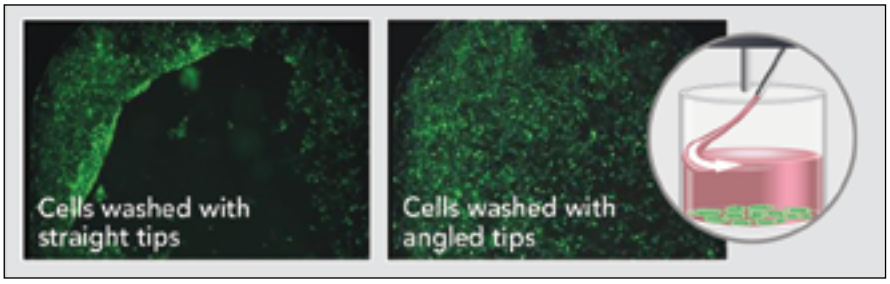
405|TS

microplate washer

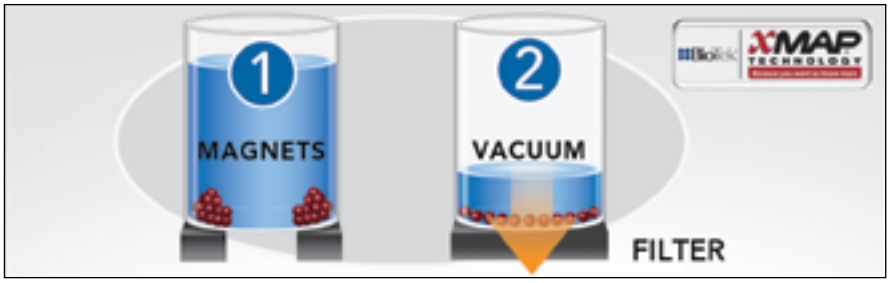
The 405™ TS Washer is the globally recognized standard for microplate washers. It offers unique benefits for effective, efficient washing for many workflows, including cell-based assays, microsphere-based assays and ELISA.

Cell-friendly design for high quality results



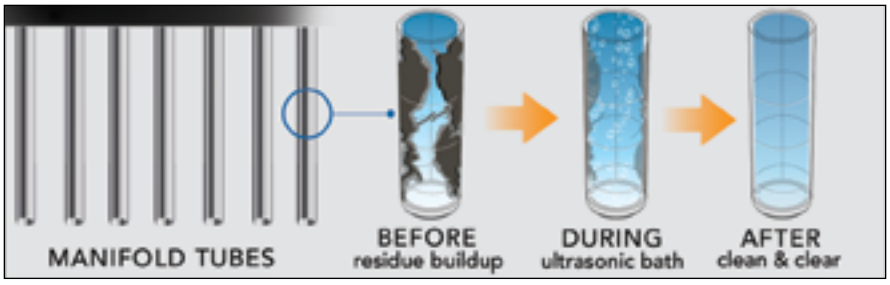
A combination of angled dispense tubes and highly adjustable dispense and aspiration rate settings make the 405 TS the ideal washer for cell-based assays. Gentle flow rates and side-wall dispensing ensure the integrity of cell monolayers.

Automatic magnetic and filtration bead-based assays



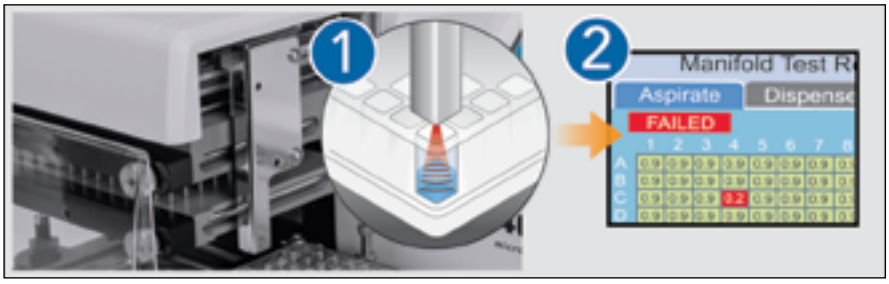
Multiplexed bead-based assays are very common, and 405 TS easily accommodates necessary wash steps. Magnet accessories for biomagnetic separation workflows, available in both flat and 4-zone ring designs, ensure high bead recovery **(1)**. A vacuum filtration module is available for polystyrene bead assays **(2)**.

Self-maintaining design with patented ultrasonic bath



Manifold tube clogs are the most common source of failure on plate washers. The built-in Ultrasonic Advantage™ allows the instrument to clean buildup in the manifold tube automatically, without removing it from the instrument.

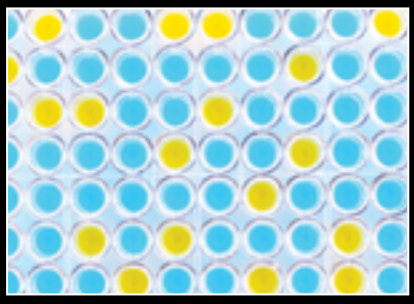
Hands-off self-testing Verify™ Technology



The Verify Technology option eliminates tedious manual procedures by using an ultrasonic probe **(1)** to check dispense and aspirate performance. Test results are automatically displayed **(2)** and indicate tubes that may require additional cleaning.

APPLICATIONS

ELISA

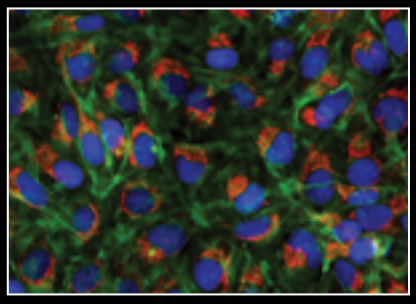


Wash steps are critical to many ELISA processes, including colorimetric, fluorometric and luminometric methods. 405™ TS easily accomplishes automated plate washing for accuracy and efficiency.

Bead-based multiplex assays

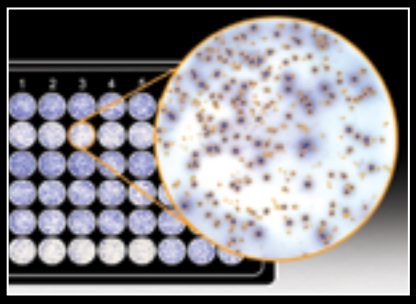
Flat- or ring-style magnet plates optimize bead retention during wash, and the vacuum filtration system enables efficient filtration-to-waste processes.

Cell-based assays



Minimal disruption of cells during wash keeps the monolayer intact for superior image capture or multi-mode detection.

ELISpot assays

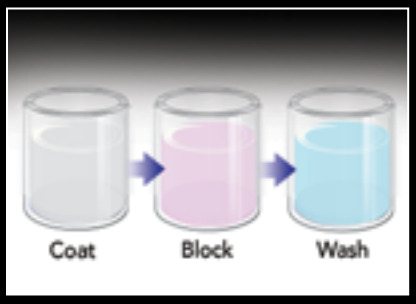


The 405 TS automates the wash steps required of ELISpot assays, in which cell secretions are made visible via colorimetric reactions and can be imaged in BioTek Cytation 7 imagers.

MSD assay automation

Multiplex assays such as Mesoscale Discovery's "Plex" assays, require effective washing…easily accomplished with the 405 TS.

ELISA plate coating



The adjustable XYZ positioning allows precise control of fluid levels for automated ELISA plate coating and manufacturing processes.

RELATED INSTRUMENTS

The 405 TS, used in conjunction with several other BioTek instruments, enhances and automates many workflows.

Epoch™ 2 Microplate Spectrophotometer

Cytation™ 1 Cell Imaging Multi-Mode Reader

BioStack™ Microplate Stacker

BioSpa™ 8 Automated Incubator

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TECHNICAL DETAILS

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General	
Microplate types	96- and 384-well Low profile and standard height Solid and filter bottom (option)
Onboard software	Create, edit or run multiple protocols
Software (computer control)	LHC2 pc software LHC2 Secure for 21 CFR Part 11 compliance (option) SiLA Compliant driver (option)
Bead based assay support	Biomagnetic separation, vacuum filtration (optional)
Shaking & soaking	Programmable up to 60 minutes
Maintenance & safety	Ultrasonic Advantage™ (option) Verify™ clog detection (option) Waste level detection Fluid flow detection
Automation	BioStack™, BioSpa™ 8 and 3rd party automation compatible
Washing	
Manifold types	Manifolds available for 96- and 384-well washing, 384-well only and 96-well only washing
Volume range	25-3,000 µL/well (192-pin manifold) 50-3,000 µL/well (96-pin manifold)
Buffer/reagent selection	Auto switching (internal) for up to 4 buffers (option)
Supply bottle	4 L or 10 L (optional)
Waste bottles	4L, 10L and 20L waste bottles available. Direct drain option available.
Dispense precision	<3% CV: 300 µL/well (96-well washing) <4% CV: 80 µL/well (384-well washing)
Residual volume	≤ 2 µL/well (96- & 384-well plates, using 96-tube manifold for 96 wells @300 µL; 192-tube for 384 wells@100 µL)
Wash speed	96-wells, 300 µL/well, 3 cycles; <30 seconds 384-wells, 100 µL/well, 3 cycles: <80 seconds
Flow rates	Adjustable rates, high flow to low flow Optimized rates for cell assays
Sterilization	Chemical
Vacuum filtration	Selectable, range from -38 mmHg to -506 mmHg Vacuum filtration time range: 5 to 999 seconds

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