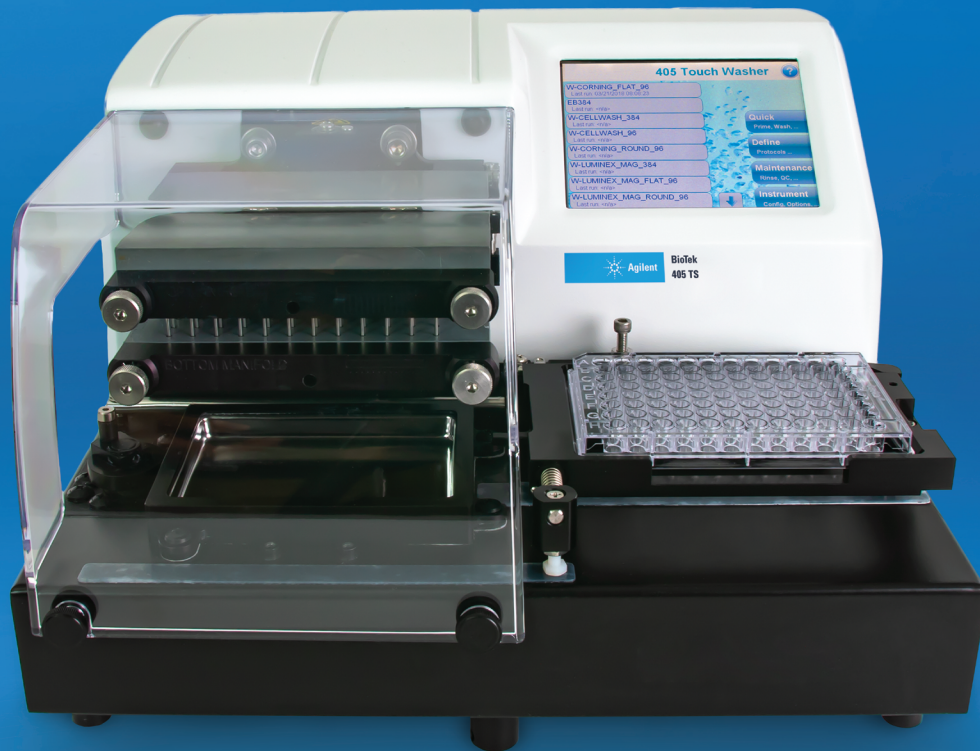


Agilent BioTek 405 TS Microplate Washer

The gold standard of microplate washers

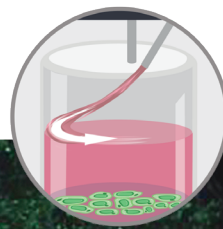


Agilent BioTek 405 TS Microplate Washer



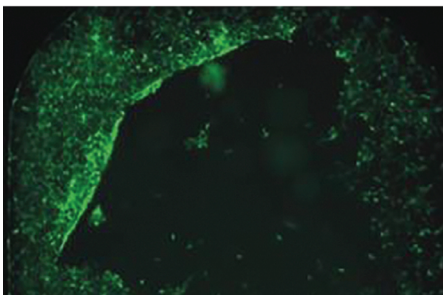
Agilent BioTek 405 TS
microplate washer

The Agilent BioTek 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.

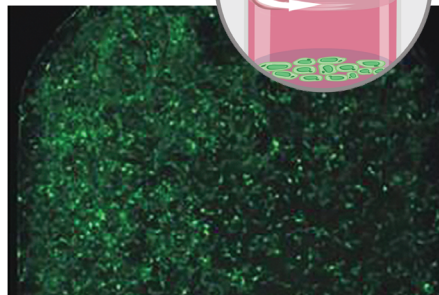


Cell-friendly design for high quality results

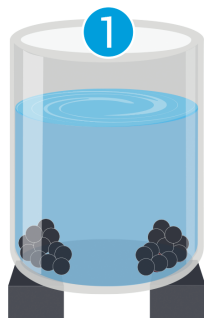
A combination of angled dispense tubes and highly adjustable dispense and aspiration rate settings make the 405 TS the ideal washer for cell-based assays. Gentle flow rates and side-wall dispensing ensure the integrity of cell monolayers.



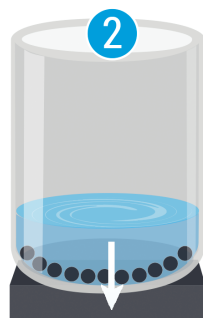
Cells washed with straight tips



Cells washed with angled tips



Magnets



Vacuum

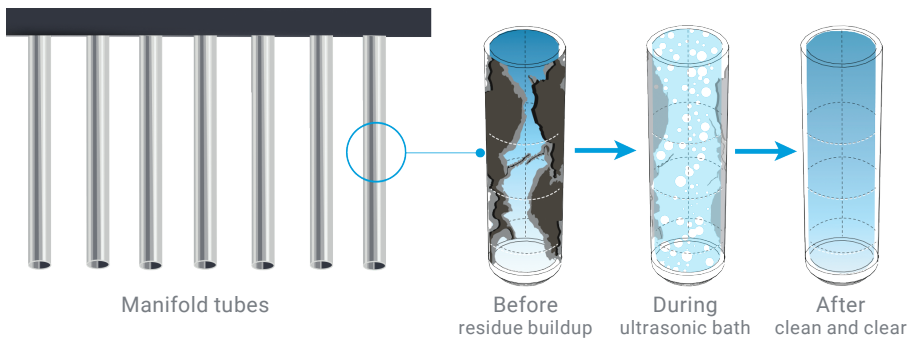
Filter

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)**.

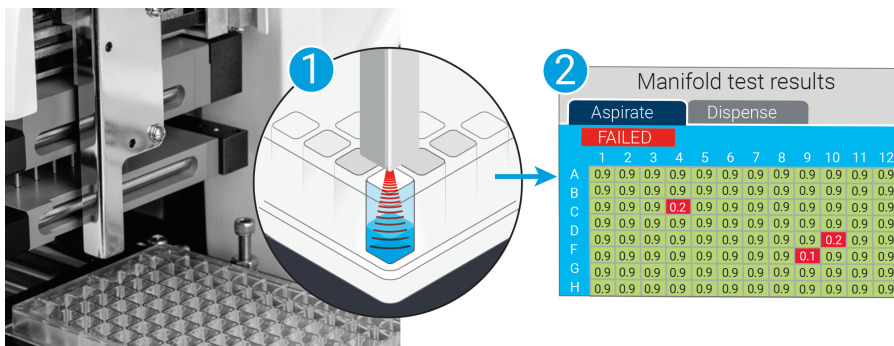
"BioTek has been the gold standard for plate washers in my experience. It is easy to use, maintain and clean and has many options and adjustments to customize for any assay and plate. Field service engineers are very knowledgeable and helpful and know how to help people set the plate washer up and keep it operating optimally."

- SelectScience review



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.

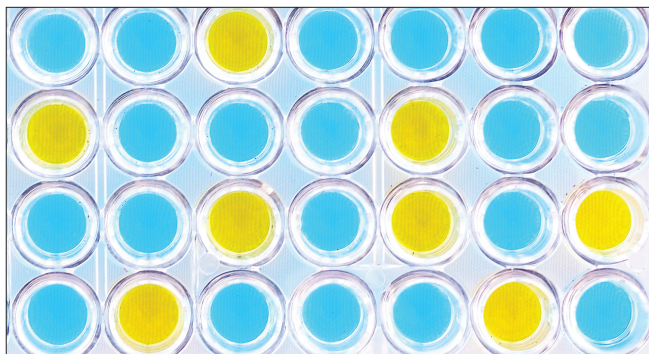


Hands-off self-testing Verify technology

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.

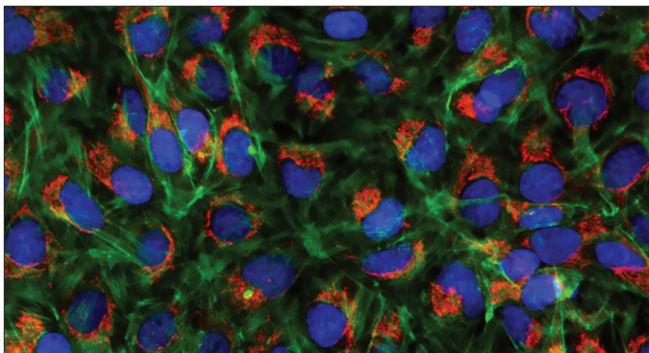
Applications

ELISA



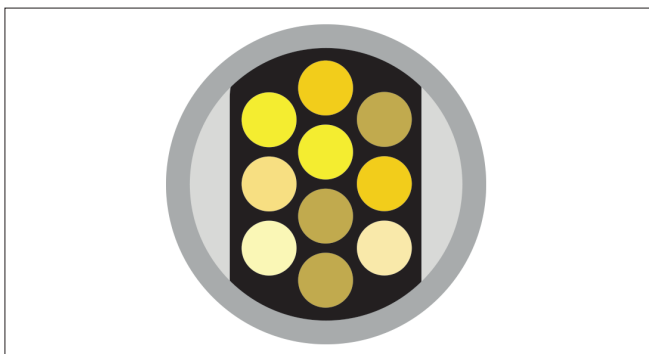
Wash steps are critical to many ELISA processes, including colorimetric, fluorometric and luminometric methods. 405 TS easily accomplishes automated plate washing for accuracy and efficiency.

Cell-based assays



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

MSD assay automation



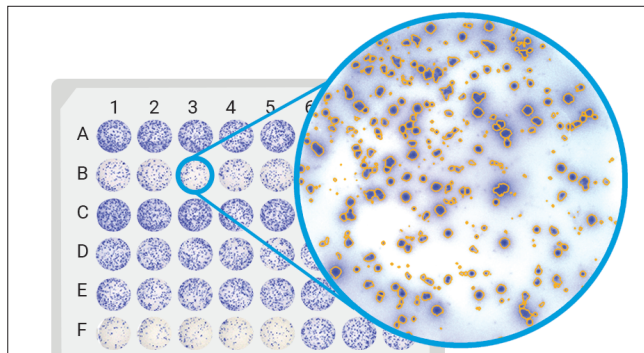
Multiplex assays such as Mesoscale Discovery's "Plex" assays, require effective washing...easily accomplished with the 405 TS.

Bead-based multiplex assays



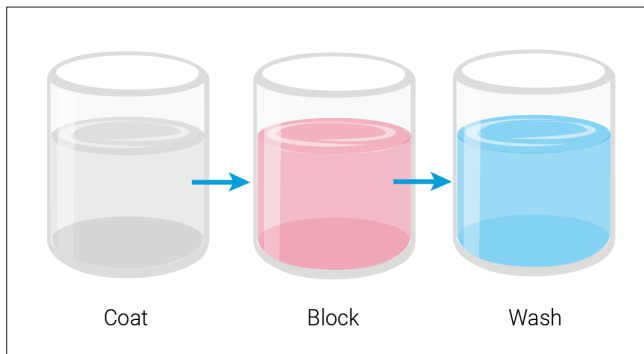
Flat- or ring-style magnet plates optimize bead retention during wash, and the vacuum filtration system enables efficient filtration-to-waste processes.

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 Agilent BioTek Cytation 7 imagers.

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 Agilent BioTek instruments, enhances and automates many workflows.



Agilent BioTek Epoch 2 microplate spectrophotometer

Ultimate assay flexibility is offered with filter-free wavelength selection from 200 nm to 999 nm in the Epoch 2. The 405 TS partners with Epoch 2 for many wash-read workflows.



Agilent BioTek Cytation cell imaging multimode reader

Cytation cell imaging multimode reader, integrated with a 405 TS and Agilent BioTek BioSpa, creates a live cell imaging system for up to eight plates at a time.



Agilent BioTek Synergy H1 Multimode Reader

The multimode reading capabilities, in addition to monochromator and filter-based detection modes available on the Synergy H1, enable a wide variety of absorbant, fluorescent, and luminescent wash-read workflows when partnered with the 405TS.



Agilent BioTek Synergy Neo2 Hybrid Multimode Reader

Ultrafast wash and read workflows are easily carried out when the hybrid technology, independent optical paths, and up to 4 PMTs available on the Synergy Neo2 are matched with the full-plate washing capabilities of the 405TS.

Related instruments



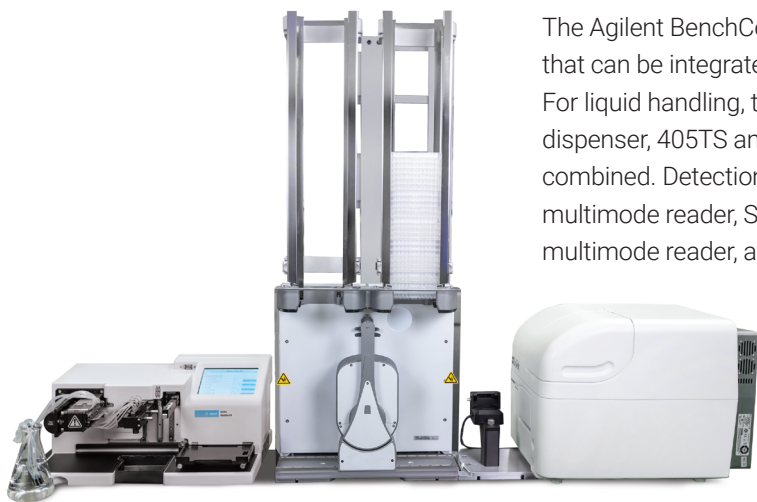
Agilent BioTek BioStack microplate stacker

Automate routine microplate washing processes with the compact BioStack microplate stacker. BioStack 4 offers patented plate de-lidding and re-lidding for sensitive cell-based workflows, and all BioStacks are available with 10-, 30- or 50-plate capacity stacking columns.



Agilent BioTek BioSpa 8 automated incubator

BioSpa 8 provides environmental controls and labware handling. Integrated to a 405 TS and a BioTek reader or imager, it facilitates workflows from ELISA to long term live cell kinetic imaging in up to eight microplates.



Agilent BenchCel microplate handler

The Agilent BenchCel microplate handler is a compact, automated system that can be integrated with a variety of Agilent BioTek instrumentation. For liquid handling, the MultiFlo FX multimode dispenser, EL406 washer dispenser, 405TS and LS washers and ELx405 deep well washers can be combined. Detection instruments, including the Cytation 5 cell imaging multimode reader, Synergy Neo2 multimode reader, Synergy H1 hybrid multimode reader, and Epoch 2 microplate spectrophotometer can also be added. In addition, the BenchCel is compatible with a wide range of microplates including deep-well plates. The combined automated workflows enable a wide variety of applications.

Technical Details



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 software LHC2 Secure for 21 CFR Part 11 compliance (option) SiLA Compliant driver (option)
Bead-based assay support	Biomagnetic separation, vacuum filtration (optional)
Shaking and soaking	Programmable up to 60 minutes
Maintenance and safety	Ultrasonic Advantage (option) Verify clog detection (option) Waste level detection Fluid flow detection
Automation	BioStack, BioSpa 8, BenchCel and third 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 $\mu\text{L}/\text{well}$ (192-pin manifold) 50-3,000 $\mu\text{L}/\text{well}$ (96-pin manifold)
Buffer/reagent selection	Auto switching (internal) for up to four buffers (option)
Supply bottle	4 L or 1 0L (optional)
Waste bottles	4 L, 1 L and 20 L waste bottles available. Direct drain option available.
Dispense precision	<3% CV: 300 $\mu\text{L}/\text{well}$ (96-well washing) <4% CV: 80 $\mu\text{L}/\text{well}$ (384-well washing)
Residual volume	$\leq 2 \mu\text{L}/\text{well}$ (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 $\mu\text{L}/\text{well}$, 3 cycles; <30 seconds 384-wells, 100 $\mu\text{L}/\text{well}$, 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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