# eppendorf



# Peak of Perfection

Made for a faster and easier daily routine:
Eppendorf Liquid Handling Consumables

# Our Benchmark: Your Requirements

### How liquid handling consumables can influence your assay results

The reliability and consistency of your research results are our priority when developing consumables.

Chemicals like slip agents, plasticizers or biocides, used as manufacturing additives, can leach out of the plastic into the sample and substantially inhibit enzymatic assays and binding studies. As described in recent publications these chemicals, such as slip agents (e.g. oleamide), can slow down evaporation, skew absorbance readings and lead to erroneous DNA quantification. Some of these slip agents have also been shown to negatively affect the outcome of biological tests like enzyme activity or receptor-binding assays.

Providing excellence for scientific experts ensures unaffected and reproducible results.

To achieve highest reliability and consistency for your experiments, Eppendorf has optimized materials and processes to minimize the risk of interference.

- > Eppendorf liquid handling consumables are made of highest quality, virgin polypropylene (PP) free of biocides, plasticizers and latex
- > Optimized, highly polished molds produced without the use of slip agents like oleamide, erucamide, stearamide
- > Used dyes are free of organic additives and heavy metals



»We have seen substantial inhibition of our enzyme assays by chemicals leaching from disposable plastic consumables. To obtain the best possible reproducibility we use consumables from manufacturers that can confirm the absence of critical manufacturing additives.«

#### Dr. Andrew Holt

Department of Pharmacology, University of Alberta, Canada



»We need to avoid that contaminants from the plastic material enter the sample and inhibit bacterial growth. The consumables that we use to analyse water samples should be of the highest purity to obtain reliable results.«

#### Karen Thomsen

Mikrobiologie-Zentrallabor, Hamburg Wasser GmbH, Germany



»Our DNA isolation protocols from both animal and plant material require grinding of tissue prior to and during the cell lysis process. As we work with high numbers of samples, breaking of consumables and subsequent sample loss can be critical. The excellent quality and stability of the 1 mL Deepwell Plates from Eppendorf convinced us as it improved the reliability of our process significantly.«

#### **Dr. Paul Gooding**

Plant Genomics Centre, Australian Genome Research Facility

## Premium Quality Is Our Standard

#### Certified quality and purity

Continuous quality assurance throughout the entire production process – from the initial material to the finished product.

- > Manufactured from carefully selected, purest raw materials which comply with international purity criteria (FDA 21 CFR§177.1520 »Olefin Polymers«, FDA 21 CFR§178.2010 »Antioxidants and Stabilizers for Polymers«)
- > Fully automatic production under clean room conditions according to VDI 2083 class 6 and to U.S. Fed.Stand. 209D class 100.000: continuous bioburden and particle monitoring of the plant for impeccable production environment
- > SOP present for storage and every production step elimination of human error
- > Frequent production tool checks plus regular in-process quality and functional checks for consistent quality guarantee and absolute reproducibility
- > Full traceability for each product full control, each product to be traced back to material lot

- > Proof of compliance with requirements of standards, guidelines and regulations that apply to biological, diagnostic and industrial laboratories:
  - > Lot-specific purity certificates document testing by an independent lab for products with the purity grades
    - > Eppendorf Biopur®
    - > PCR clean
    - > Sterile
    - > PCR clean and Sterile available at www.eppendorf.com/certificates
  - > General quality certificates as e.g.
    - > Certificates of Purity for PCR clean and Eppendorf Biopur products
    - > Certificates of Quality e.g. Statement on BSE/TSE
  - > Product specific certificates
    - > For trace metal
    - > For absence of surface active additives
    - > With special focus, e.g. filter efficiency for ep Dualfilter T.I.P.S.®
  - > Certificates verifying Quality Management System/ compliance with standards







# A System You Can Rely On

#### Tailored to your application needs

Eppendorf has set industry standards in consumable purity levels. Building on the famous Eppendorf Quality, four additional purity grades tailor Eppendorf Consumables to various applicational needs — Sterile, PCR clean, Forensic DNA Grade and Biopur.

You have highest expectations on consistency and reproducibility? Make Eppendorf consumables your choice!

#### Paving the way for modern lab standards

All consumables are subject to internal process controls on function, tightness, precision, transparency, low wetting property and high chemical and thermal resistance. Additionally, all Sterile, PCR clean, Biopur, and Forensic DNA Grade products are tested by an independent, external laboratory for compliance. The lot-specific certificates issued by this laboratory may be downloaded here: www.eppendorf.com/certificates



#### Eppendorf Quality™

Continuous quality controls

#### **Example applications:**

All routine lab applications



#### Sterile

Continuous quality controls

### Certified by an ISO 17025 accredited independent laboratory:

- > Pyrogen-free
- > Sterile

#### **Example applications:**

Microbiology and cell culture applications



#### PCR clean

Continuous quality controls

### Certified by an ISO 17025 accredited independent laboratory:

- > Human DNA-free
- > DNase-free
- > RNase-free
- > PCR inhibitor-free

#### **Example applications:**

The perfect choice for isolation and analytics (PCR/qPCR, NGS, microarrays) of RNA, DNA, nucleic acids



## Forensic DNA Grade according to ISO 18385

Continuous quality controls

### Certified by an ISO 17025 accredited independent laboratory:

- > Human DNA-free
- > DNase-free
- > RNase-free
- > PCR inhibitor-free

#### **Example applications:**

For the preparation of forensic DNA analysis, extraction and purification



#### Biopur®

Continuous quality controls

### Certified by an ISO 17025 accredited independent laboratory:

- > Human DNA-free
- > Bacterial DNA-free
- > DNase-free
- > RNase-free
- > PCR inhibitor-free
- > ATP-free
- > Pyrogen-free
- > Sterile

#### **Example applications:**

For highest purity demands in cell culture, nucleic acid analytics, or hygiene monitoring





	PCR clean	PCR clean and Sterile	Forensic DNA Grade*	Biopur*
Lot testing (certified) for the following purity criteria				
Pyrogen-free (endotoxin-free)		•		•
Sterile (Ph. Eur./USP)		•		•
Human DNA-free	•	•	•	•
DNA-free (Human- and bacterial DNA)				•
DNase-free	•	•	•	•
RNase-free	•	•	•	•
PCR inhibitor-free	•	•	•	•
ATP-free				•
Methods (examples)				
Bacteria and yeast culture		<u> </u>		<b>√</b>
Cell and tissue culture		✓		<b>11</b>
Isolation and storage of DNA	<b>11</b>	✓	<b>11</b>	✓
Isolation and storage of RNA	<b>─</b>		<u> </u>	<b>11</b>
DNA analysis (PCR, qPCR, restriction analysis,	<b>11</b>	✓	<b>11</b>	✓
hybridization, microarrays, sequencing)				_
Mitochondrial DNA analysis				
Bacterial DNA analysis				_
RNA analysis	_ ✓	✓	✓	
Application Areas (Examples)				
Molecular biology		<b>√</b>		_ <b>√</b>
Microbiology		<b>√</b>		_
Cell biology:				
> Stem cell research		✓		<b>11</b>
> Transgenic animals/plants				
Research:				
> Medical		✓		<b>11</b>
> Agriculture and aquaculture				_
Quality control:				
> Food and beverage		✓		<b>√</b> √
> Water supply > Environmental monitoring				
Forensic				
1 Dictible				

<sup>✓</sup> Recommended, ✓ ✓ Highly recommended

<sup>\*</sup> Increased safety due to individually packaged/single-blistered products.

## The Perfect Fit – epT.I.P.S.®

Each of your valuable samples deserve best treatment. See for yourself how Eppendorf pipette tips will save time and reduce costs.

With respect to material, fit, design and operating forces our pipette tips set new standards. The close environment of each sample should be adapted to its specific quality and purity needs. This can involve a specific purity level or the absence of certain substances, but also stability, reliability or geometry. The epT.I.P.S. pipette tips from Eppendorf are designed to cover all of the specific needs of your samples.

Our epT.I.P.S. – Eppendorf Totally Integrated Pipetting System – have been developed to work in perfect combination with our pipettes. This results in reduced tip attachment and ejection forces while maintaining a complete seal between tip and pipette. Additionally, the universal nose cone design allows the tips to be used with pipettes from other manufacturers.

In the Eppendorf owned production facilities in the north of Germany, we can maintain the highest standards in the selection and processing of plastic materials. Ideal wetting properties, high transparency, and special certified purity levels are the visible expression of this production philosophy.

Every tip is manufactured to match specifically to its respective Eppendorf pipettes, thus ensuring the maximum precision and reliability you have come to expect and to rely on.

Each pipette tip together with the pipette forms a complete coordinated system. In our current Application Note 354 "The tip of the iceberg - How pipette tips influence results" we have compiled research results to provide you with comprehensive information about erroneous test results caused by using an uncoordinated pipetting system.

Learn more at: www.eppendorf.com/tip-quality





#### epT.I.P.S.® Racks

- > Eppendorf Biopur® pipette tips provide maximum biological purity. Guaranteed PCR clean, sterile, pyrogen-free, ATP-free, bacterial DNA-free, they meet the most stringent requirements of the medical, pharmaceutical and foodstuffs industry as well as those of molecular biology and cell biology
- > Lot-specific certificates issued by an independent laboratory are available on the Internet at www.eppendorf.com/certificates
- > Packaged in racks of 96, 48 or 24 tips
- > Batch number and expiration date on each rack label
- > EU-IVD product according to directive 98/79/EC



\* The pipette tips epT.I.P.S. in the packaging units Box, Reloads, Set, Singles and Racks are designed and constructed for low-contamination transfer of liquids, in particular for samples from the human body and for reagents within the scope of an in-vitro diagnostic application in order to allow the in-vitro diagnostic device to be used as intended. The above mentioned epT.I.P.S. are in-vitro diagnostic devices according to Directive 98/79/ EC of the European Parliament and the Council dated October 27, 1998.



#### epT.I.P.S.® Standard

- > Original, high-quality Eppendorf pipette tips packaged in resealable bags
- > Available in sizes from 10  $\mu$ L to 10 mL
- $> 200~\mu L,\,300~\mu L$  and 1,000  $\mu L$  tips are also available color-coded yellow and blue
- > For research use only



#### epT.I.P.S.® Box/ epT.I.P.S.® Set

- > Contact-free transfer of trays to the working box
- > System optimized for use with multichannel pipettes
- > Color-coded trays for simple identification of tips and matching Eppendorf pipette
- > Tips can be attached to the pipette from the refill tray in boxes
- > Reload trays and epT.I.P.S. boxes are entirely autoclavable for future use
- > EU-IVD product according to directive 98/79/EC



#### epT.I.P.S.® Reloads

- > Reduced waste as compared with disposable racks
- > The Reload system, depending on tip size, is packaged as either dualsided or in stack form
- Reloads are available in two purity levels:Eppendorf Quality and PCR clean
- > EU-IVD product according to directive 98/79/EC



#### epT.I.P.S.® Singles

- > Individually wrapped pipette tips in Eppendorf Biopur: guaranteed sterile, RNase-, DNA-, ATP- and pyrogen-free
- > Batch number and expiration date printed on each blisterpack
- > Continuous quality control of each batch by an independent laboratory — Batch-specific purity certificates available on www.eppendorf.com/ certificates
- > EU-IVD product according to directive 98/79/EC

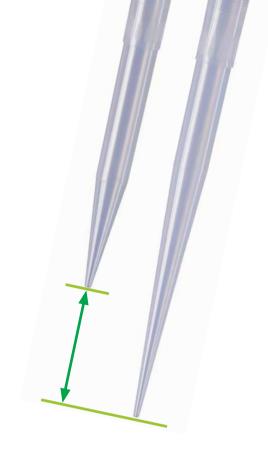
## Long-Distance Tips

#### Extended length for reliable sampling

epT.I.P.S. L pipette tips enable you to reliably reach your sample while pipetting from and into conical tubes, high reagent bottles, narrow deep vessels, cell culture flasks or deepwell plates. The long and slim design of these elongated pipette tips gives you free access to your sample with reduced risk of touching the sides of tubes or wells. Cross-contamination during pipetting can be reduced to a minimum.

#### Product features and benefits

- > Safe sample access to Eppendorf 5 mL tubes, 15 mL conical tubes, test tubes, cell culture flasks, deepwell plates and other deep vessels
- > Highest protection for pipette and sample with ep Dualfilter T.I.P.S L
- > Available in the purity standards Eppendorf Quality, PCR clean, Eppendorf Biopur and as ep Dualfilter T.I.P.S. in PCR clean/Sterile
- > 0.5 20  $\mu L$  L, 46 mm for 0.2, 0.5, 1.5 and 2.0 mL tubes or plates
- > 50 1,250  $\mu L$  L, 103 mm for 1 mL deepwell plates and with multichannel pipette
- > 0.2 5 mL L, 175 mm for 15 mL, 50 mL conical tubes
- > 0.5 10 mL L, 243 mm for 75 cm<sup>2</sup> cell culture flasks, 1 L reagent bottles, Erlenmeyer flasks, measuring cylinders







> epT.I.P.S. L are available in volumes of: 0.5–20  $\mu L$  L 46 mm long, 50–1,250  $\mu L$  L 103 mm long, 0.2–5 mL L 175 mm long and 0.5–10 mL L 243 mm long

## ep Dualfilter T.I.P.S.®

#### Two filter layers are better than one

Eppendorf ep Dualfilter T.I.P.S. are the first filter tips with a two-phase filter for contamination protection. The unmistakable blue and white filter layers are made of flexible, hydrophobic material to fit perfectly in the tip cone and retain practically 100% of all aerosols\* and biomolecules. This unique filtering effect is achieved using various well-defined pore sizes in the two filter layers.

The white layer that faces the sample retains drops, splashes and aerosols. The blue layer forms a highly-effective double barrier that reliably binds biomolecules.

\* An aerosol is a colloid of fine solid particles or liquid droplets, in air or another gas

The air flow rate through the filter is the same as with single-layer filters — it simply makes your rapid pipetting tasks much safer. The ep Dualfilter T.I.P.S. hydrophobic filter surface also enables easier and complete recovery of samples.

#### Product features und benefits

- > Two filter layers provide dual protection
- > Dual protection for pipette and sample
- > Dual protection from aerosols and biomolecules
- > Free of PCR inhibitor additives
- > Eppendorf PCR clean, Sterile and pyrogen-free
- > Batch certified

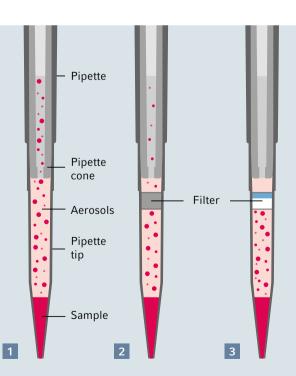
#### **Applications**

- > DNA applications (e.g. PCR)
- > RNA applications (e.g. Gene expression analysis)
- > Protein applications (e.g. Antibody Research)
- > Cell Culture applications (e.g. Media)
- > Applications with radioactive substances

### Dual protection against contamination right from the start.

ep Dualfilter T.I.P.S. are manufactured to the highest possible quality from pure, non-recycled materials under cleanroom conditions. They are characterized by defined flow dynamics, low wettability and high thermal stability.

ep Dualfilter T.I.P.S. are sterilized by electron beams and certified pyrogen-free and PCR clean (free from human DNA, DNase, RNase and PCR-inhibiting substances).



Aerosols are formed during the movement of liquids. Without a filter 1 the pipette is exposed to contamination by samples and aerosols. Conventional single-layer filters 2 do not fully block particles and molecules. Only ep Dualfilter T.I.P.S. 3 provide reliable protection even against the finest impurities.

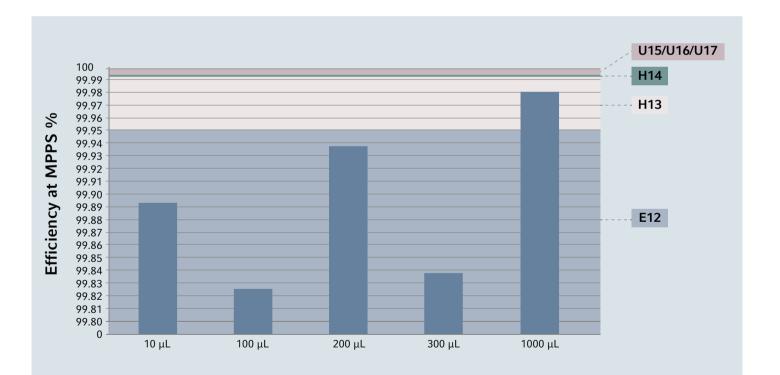
## Scientifically Proven

#### Excellent protection with ep Dualfilter T.I.P.S.®

For the introduction of the ep Dualfilter T.I.P.S.® filter tips in 2006, filter tips from various manufacturers were tested in a blind trial at the Fraunhofer Institute for Toxicology and Experimental Medicine (ITEM) in Hanover, Germany. Testing focused on the prevention of tip cone contamination by aerosols. Efficacy of the filters from various manufacturers to protect against salt aerosols and biomolecules (DNA fragments) was examined. Quantitative determination of DNA fragments was performed using real-time PCR.

The results indicate that ep Dualfilter T.I.P.S. filter tips are much better at protecting against aerosols than the other filter tips tested during the trial. With regard to particle permeability, ep Dualfilter T.I.P.S. are 55 to 677 times more effective. ep Dualfilter T.I.P.S. were 21 to 600 times more effective when protection against DNA fragments was examined for the first time.

Both filters, ep Dualfilter T.I.P.S. and ep Dualfilter T.I.P.S. SealMax, are made of the same Polyethylene (PE) and have comparable pore size structure. Thus a further study with ep Dualfilter T.I.P.S. SealMax was conducted based on the standard EN 1822. This standard deals with filtration performance testing of filters as used, for example, for applications in clean room technology or pharmaceutical industry. The results of the filter efficiency testing done by a certified institute showed a minimum particle collection efficiency of the ep Dualfilter T.I.P.S. SealMax of 99.5 % with NaCl aerosol particle sizes of  $0.05-0.5 \mu m$ .



Performance of ep Dualfilter T.I.P.S. SealMax at MPPS (most penetrating particle size). Measurements performed according to EN 1822.

Filters retain different particle sizes with different performance. The MPPS displays the lowest performance. The labels on the right side of the graphic refer to different classes of MPPS within the standard EN 1822. All ep Dualfilter T.I.P.S. comply with class E12, whereas the most used ep Dualfilter T.I.P.S. variant, the 1,000 µL tip, even complies with class H13. This means that it catches at least 99.98 % of the particles.

## Don't Panic

#### Your pipette is safe with ep Dualfilter T.I.P.S. SealMax

Eppendorf's ep Dualfilter T.I.P.S. SealMax filter tips protect your pipette against both aerosols and liquids. When it comes to an accidental over-pipetting situation, the new violet layer of ep Dualfilter T.I.P.S. SealMax becomes a reliable barrier against sample liquid - no liquid will pass through the filter. Your pipette is safe at all times! Additionally, virtually 100 % of aerosols\* and biomolecules are retained while the hydrophobic white layer protects against splashes and droplets. Further information on specific sample recovery features, PCR inhibition and aerosol protection are available on your local Eppendorf website.

#### Product features and benefits

- > Reliable blocking of liquid for comprehensive pipette protection
- > Maximum protection against aerosols and biomolecules for pipette and sample
- > No PCR-inhibition in case of sample contact
- > Available in PCR clean, Sterile (sterile, pyrogen-free)
- > Lot specific purity certificates

#### **Extended applications**

- > Applications with toxic or other dangerous sample material
- > Applications where limited sample amounts are available
- > Applications where sample preparation is especially time and cost consuming



<sup>\*</sup> An aerosol is a colloid of fine solid particles or liquid droplets, in air or another gas.

## epT.I.P.S.® LoRetention

#### Increased sensitivity with maximum reproducibility

Do you depend on your precious samples? Then don't leave any valuable residues in your tips when pipetting solutions that contain detergents! Based on a unique and innovative method of material modification, the new Eppendorf epT.I.P.S. LoRetention pipette tips allow you to transfer almost 100 % of the liquid picked up (»pearl effect«) for maximum recovery with unbeaten precision.

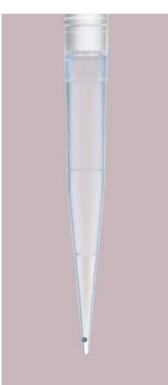
The pipetting of liquids containing detergents is ubiquitous in modern laboratory processes. The lower surface tension of detergents has a marked influence on the dosing properties of samples, thus making it noticeably more difficult to perform reproducible work with these liquids.

#### The »Pearl Effect«

The ultrahydrophobic extremely homogenous surface of the epT.I.P.S. LoRetention pipette tips is achieved through an innovative treatment at the molecular level – the Pearl Effect Technology.

The tips are uncoated, free from additives, and do not leach into the sample. Liquids roll off completely, so that only a tiny drop remains in the tip. In comparison, the adhesive layer of liquid in standard tips retains considerably more sample material.

For users of the epT.I.P.S. LoRetention pipette tips, this unique material property quarantees maximum sample recovery, improved reproducibility and higher sensitivity. Available in purity grade of PCR clean and Eppendorf Quality, also as PCR clean/Sterile ep Dualfilter T.I.P.S..



The »Pearl Effect« -Maximum recovery with epT.I.P.S. LoRetention



Simple differentiation of racks and reloads through a new, clear lid with a white seal. The reusable seal supplied with the reloads can

also be used to label existing epT.I.P.S. boxes. When open, the writing »LoRetention« can be seen from the inside.

## The Facts Speak for Themselves

#### Maximum reproducibility in genomics epT.I.P.S.

LoRetention pipette tips are especially recommended for applications where highest precision of DNA/RNA analysis results are needed, such as for PCR and realtime PCR or NGS library preparation. For example expensive master mixes and enzyme solutions tend to adhere to the tips inner surface. Special treated low retention surfaces are created to repel detergent solutions to a maximum - for minimum loss of your valuable sample.

#### **Examples of liquids with wetting effect:**

- > Master mixes & NGS reagents
- > Enzyme solutions: restriction enzymes, ligation, DNase
- > DNA ladders for gel electrophoresis

epT.I.P.S. LoRetention perform considerably better in terms of precision and sample recovery than standard pipette tips as shown in fig. 1.

#### Maximum reproducibility in proteomics

It is not only in molecular biology that high sensitivity detection methods require extreme reliability and reproducibility in pipetting. Also in protein analysis and purification the reagents and samples often contain detergents, like e.g. SDS-Page. By minimizing sample retention and improving reproducibility of pipetting, epT.I.P.S. LoRetention pipette tips and ep Dualfilter T.I.P.S. LoRetention filter tips are especially advantageous in proteomic applications.

#### Routine protein applications:

- > Isolation
- > Purification
- > Denaturation

The facts speak for themselves – when compared to standard pipette tips, epT.I.P.S. LoRetention showed markedly better results in terms of precision and sample recovery, as displayed in fig. 1 and 2.

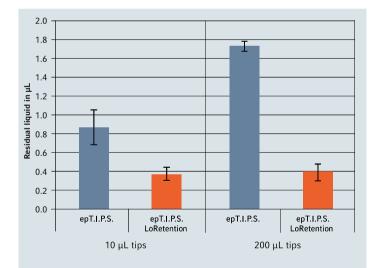


Fig. 1: Comparison of residual liquid of epT.I.P.S. and epT.I.P.S. LoRetention with master mix for real-time PCR. Once the liquid had been dispensed, the residual liquid in the tips was determined. The measurements were repeated several times and the standard deviation was determined. epT.I.P.S. LoRetention resulted in the lowest residual liquid.

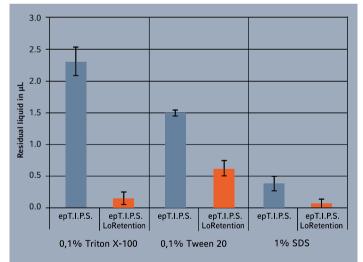


Fig. 2: Comparison of resistance of the low retention property when subjected to solvents typically used in proteomics. 200  $\mu$ L epT.I.P.S. and epT.I.P.S. LoRetention were treated with the solvents specified. An enzymatic buffer containing detergents was then pipetted and the residual moisture was determined. epT.I.P.S. LoRetention resulted in reproducible low levels of residual liquids.

# Loading and Filling

#### Eppendorf GELoader®

Eppendorf's GELoader Tips have been designed to simplify the loading of samples onto polyacrylamide gels. These flexible, long and narrow tips prevent the gels from being damaged whilst allowing optimal handling of smallest volumes.

#### Product features and benefits

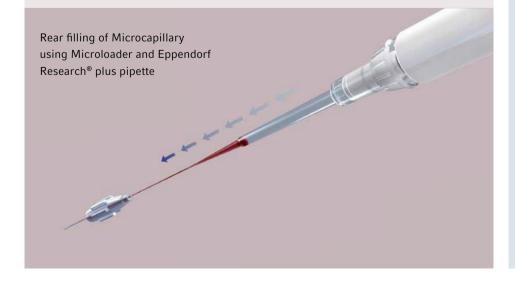
- > Special tip for gel electrophoresis
- > GELoader Tips and rack autoclavable (121°C, 20 min.)
- > Highest precision and accuracy when used with Eppendorf pipettes for 0.5 to 10 μL (gray control button)



These unique tips are ideally suited to fill microcapillaries used for microinjection. The extremely long, fine and flexible tip provides also the ideal solution for all kind of applications in which additional immersion depth is needed while pipetting smallest volumes.

#### Product features and benefits

- > Extremely long, fine and flexible for filling of microcapillaries for microinjection
- > Rack package can be autoclaved by 121°C
- > Ideal for recovering surplus solution from the capillary





**Unmistakably Eppendorf** - Thanks to the patented 3D design on the upper rim, Multipettes are able to automatically and reliably detect the volume type of Combitips advanced®.



#### Always ready to hand -

Combitips advanced are color coded for easy selection and secure connection the Combitip rack also makes single-hand operation possible.



A perfect team - The Combitips advanced and ViscoTips® are optimized for all previous and new Multipette models - thus creating a perfect connection!

## Time for a New Original



#### Eppendorf Combitips advanced®

The invention of the Eppendorf Multipette® manual dispenser and the Eppendorf Combitips® marks a milestone in the field of Liquid Handling! Executing long pipetting and dispensing series were thus made significantly simpler and faster. Thanks to its innovative sensor technology for automatic Combitip recognition, this dispensing system has become an indispensable tool for every laboratory. The increasingly high demands of modern laboratory work have also heightened the requirements for a highprecision dispensing tip. Our experts have thoroughly optimized the Combtips using sophisticated engineering.

The result: A revolutionary 360° evolution! Setting a completely new standard in dispensing systems.

#### The »Combitips« principle

- > Positive displacement principle (comparable to a syringe)
- > High-precision-dispensing regardless of the density and viscosity of the liquid
- > Prevents aerosol contamination with sealed piston for secure dispensing and provides protection from radioactive and toxic substances
- > Quick dispensing of long series with precise, repeated dispensing of identical volumes (in combination with the Multipette/Repeater\*)
- > Individually color coded Quick identification of the desired Combitips facilitates the workflow
- > Variety and selection With 9 volume sizes (0.1 mL to 50 mL) and several purity levels you will always find the perfect Combitip for your application. The tips in Eppendorf Biopur, Sterile, and Forensic DNA Grade are individually blister-wrapped and feature an access tab which makes them easier to open, even with gloves

# **Technical Specifications** Combitips advanced®

**Technical specifications** 

Combitips advanced	Min./max. volume	Increment/ step size	Max. dispensing volume	Test volume	Inaccuracy*1	Imprecision*1
for Multipette M4 and Co	mbitips advanced sy	stem				_
0.1 mL	1 μL	1 μL	20 μL	2 μL	±1.6 %	±3.0 %
	20 μL		•	20 μL	±1.0 %	±2.0 %
0.2 mL	2 μL	2 μL	40 μL	4 μL	±1.3 %	±2.0 %
	40 μL			_40 μL	±0.8 %	±1.5 %
0.5 mL	5 μL	5 μL	100 μL	10 μL	±0.9 %	±1.5 %
	100 μL			_100 μL	±0.8 %	±0.6 %
1 mL	10 μL	10 μL	200 μL	20 μL	±0.9 %	±0.9 %
	200 μL			200 μL	±0.6 %	±0.4 %
2.5 mL	25 μL	25 μL	500 μL	50 μL	±0.8 %	±0.8 %
	500 μL			500 μL	±0.5 %	±0.3 %
5 mL	50 μL	50 μL	1,000 μL	100 μL	±0.6 %	±0.6%
	1,000 μL				±0.5 %	±0.25 %
10 mL	100 μL	100 μL	2,000 μL	200 μL	±0.5 %	±0.6 %
	2,000 μL			2,000 μL	±0.5 %	±0.25 %
25 mL	250 μL	250 μL	5,000 μL	500 μL	±0.4 %	±0.6 %
	<u>5,000 μL</u>			5,000 μL	±0.3 %	±0.25 %
50 mL	500 μL	500 μL	10,000 μL	1,000 μL	±0.3 %	±0.5 %
	10,000 μL			10,000 μL	±0.3 %	±0.3 %
for Multipette stream/Xst				· -	_	
0.1 mL	1 μL	0.1 μL	0.1 mL	10 μL	±1.6 %	±2.5 %
				50 μL	±1.0 %	±1.5 %
	100 μL			100 μL	±1.0 %	±0.5 %
0.2 mL	2 μL	0.2 μL	0.2 mL	20 μL	±1.3 %	±1.0 %
				100 μL	±1.0 %	±1.0 %
	200 μL			200 μL	±1.0 %	±0.5 %
0.5 mL	5 μL	0.5 μL	0.5 mL	50 μL	±0.9 %	±0.8 %
				250 μL	±0.9 %	±0.5 %
	500 μL			500 μL	±0.9 %	±0.3 %
1 mL	10 μL	1 μL	1 mL	100 μL	±0.9 %	±0.55 %
				500 μL	±0.6 %	±0.3 %
	1 mL			1,000 μL	±0.6 %	±0.2 %
2.5 mL	25 μL	2.5 μL	2.5 mL	250 μL	±0.8 %	±0.45 %
				1,250 μL	±0.5 %	±0.3 %
	2.5 mL			2,500 μL	±0.5 %	±0.15 %
5 mL	50 μL	5 μL	5 mL	500 μL	±0.8 %	±0.35 %
	•			2,500 μL	±0.5 %	±0.25 %
	5 mL			5,000 μL	±0.5 %	±0.15 %
10 mL	100 μL	10 μL	10 mL	1,000 μL	±0.5 %	±0.25 %
	•	•		5,000 μL	±0.4%	±0.25 %
	10 mL			10,000 μL	±0.4 %	±0.15 %
25 mL	250 μL	25 μL	25 mL	2,500 μL	±0.3 %	±0.35 %
	•	•		12,500 μL	±0.3 %	±0.25 %
	25 mL			25,000 μL	±0.3 %	±0.15 %
50 mL	500 μL	50 μL	50 mL	5,000 μL	±0.3 %	±0.5 %
	r.	'		25,000 μL	±0.3 %	±0.2 %
	50 mL			50,000 μL	±0.3 %	±0.15 %

<sup>\*1</sup> The data for imprecision (random error) and inaccuracy (systematic error) according to EN ISO 8655 only apply when using original Eppendorf Combitips advanced.

Compatibility of Combitips advanced with standard laboratory tubes

Combitips advanced/ ViscoTip®	Eppendo	rf Safe-Lock	Tubes	Eppendorf Tubes® 5.0 mL	Conical t	tubes	Eppendorf	Eppendorf Deepwell Plates	
	0.5 mL	1.5 mL	2.0 mL	5.0 mL	15 mL	50 mL	96/500 μL	96/1000 μL	96/2000 μL
0.2 mL	+	+	+	+	_	_	+	+	+
0.5 mL	+	+	+	+	_	_	+	+	+
1 mL	+	+	+	+			+	+	+
2.5 mL	+	+	+	+	+	+	+	+	+
5 mL	+	+	+	+	+	+	+	+	+
10 mL	+	+	+	_		+	+	+	+
25 mL	_	+	+	_			+	+	+
50 mL	_	+	+	_	_	_	+	+	+

# ViscoTip®

Experience the new member of the Combitips advanced dispenser tip family. The ViscoTip is specifically designed and optimized for handling high viscosity liquids up to 14,000 mPa\*s such as Glycerol 99.5%, Tween, oils, cremes, shampoos or honey. It significantly reduces operating forces while handling such liquids leading to enhanced ergonomics, increased working speed and longer charge life time of your Multipette battery.



## Positive Displacement Tips



#### For Eppendorf Varipette®

The pipette tips for the Varipette are tailored to different vessels. For example, the Eppendorf Varitips® P are designed for aspirating 1 mL to 10 mL from beakers, and it pipettes according to the positive displacement principle. The Eppendorf Varitips S for 2.5 mL to 10 mL form a system with the Maxitip. This system can be used for aspirating liquids from tall, narrow-neck vessels.

#### Product features and benefits

- > Varitips P (fig. 1) for aspirating 1 mL to 10 mL from beakers using a positive displacement technique
- > Varitips S (fig. 2): The dosing part, in combination with the Eppendorf Maxitip (fig. 3) forms a system for aspiration of between 2.5 mL and 10 mL liquid from high, narrowmouth vessels – air displacement principle
- > Valve for Maxitip ensures drip-free dispensing of liquids with a high vapour pressure
- > Maxitip is graduated for dispensing accurate volumes of nonaqueous liquids

Reliable Unattended Automation





#### epT.I.P.S.® Motion - Eppendorf Totally Integrated **Pipetting System for Automation**

For routine pipetting with the best precision in the industry it is important to have a perfect system of tips and automate. The epT.I.P.S. Motion have been developed to work in perfect combination with our epMotion® platform.

The epT.I.P.S. Motion racks consist of two options for simple integration into the epMotion liquid handling workstation: A single use box with color coded trays for easy volume identification and a TipHolder adapter to use the trays as a Reload-System. With color coded trays you can guickly and easily see the volume range of the tip and assure an even higher level of sample safety. The new Reload trays also offer a more environmentally friendly option and will be delivered in a PET blister packaging with a sealed cap assuring the same well established quality as all Eppendorf tips.

The optional TipHolder adapter (autoclavable) replaces the normal tip box component and reduces waste by up to 40 %. A perfect match for the most demanding user.

#### Product features and benefits

More safety

- > Each tip is checked for straightness before packaging
- > Color-coded trays for direct volume identification
- > Dispensing tool design assures an optimal fit each time
- > Optical sensor automatically identifies tip type Flexible handling
- > For volume ranges (0.2  $\mu$ L to 1 mL) available with and w/o filter in multiple purity grades
- > Easily exchangeable, no additional labware files required
- > Available as SafeRacks for tip reuse with individual tip compartments

Eco-friendly Reload System

- > Easy conversion with TipHolder adapter
- > TipHolder adapter is autoclavable
- > Reduces waste by up to 40 %

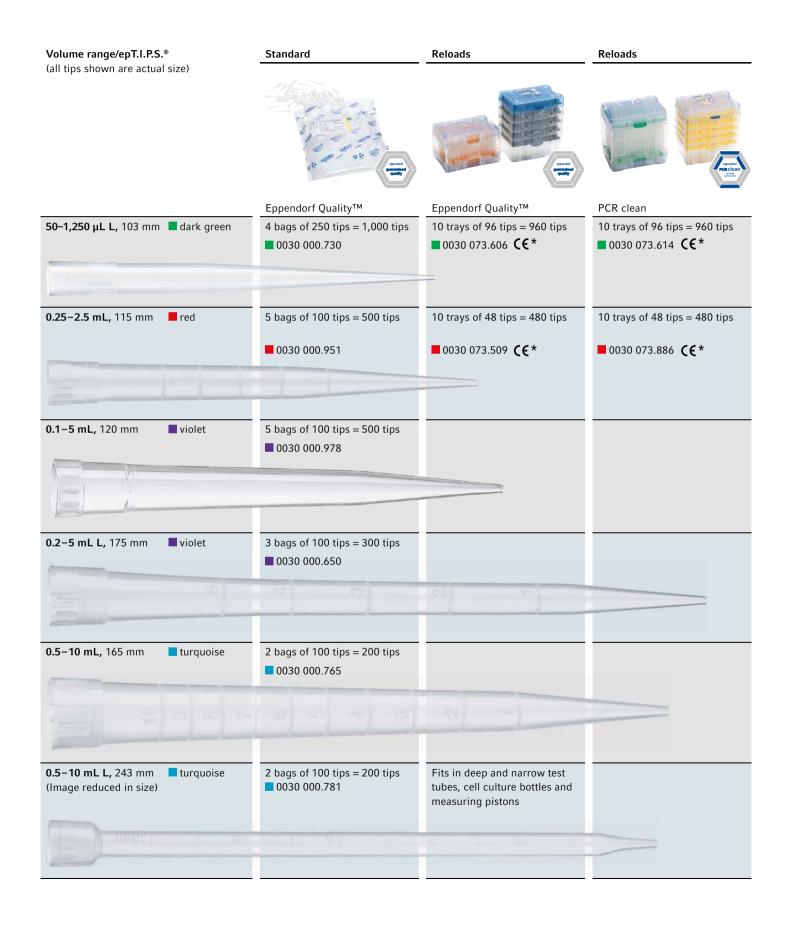




#### Volume range/epT.I.P.S.® Standard Reloads Reloads epT.I.P.S.® LoRetention (all tips shown are actual size) Eppendorf Quality™ Eppendorf Quality™ PCR clean **0.1–10 μL,** 34 mm dark gray 2 bags of 500 tips = 1,000 tips 10 trays of 96 tips = 960 tips 10 trays of 96 tips = 960 tips ■ 0030 073.363 **(€\*** ■ 0030 073.746 **(€\* 0030 000.811** ■ 0030 072.006 LoRetention ■ 0030 072.049 LoRetention **0.1–20 μL,** 40 mm 2 bags of 500 tips = 1,000 tips 10 trays of 96 tips = 960 tips 10 trays of 96 tips = 960 tips medium gray ■ 0030 073.380 **(€**\* ■ 0030 073.762 **(€\*** 0030 000.838 0.5-20 µL L, 46 mm light gray 2 bags of 500 tips = 1,000 tips 10 trays of 96 tips = 960 tips10 trays of 96 tips = 960 tips0030 073.401 **(£**\* 0030 073.789 **(\***\* 0030 000.854 0030 072.057 LoRetention 0030 072.014 LoRetention 2-200 μL, 53 mm yellow 2 bags of 500 tips = 1,000 tips 10 trays of 96 tips = 960 tips10 trays of 96 tips = 960 tips0030 000.889 0030 073.428 **(\***\* 0030 073.800 **(£**\* 0030 000.870 yellow 0030 072.065 LoRetention 0030 072.022 LoRetention **20–300 μL,** 55 mm 2 bags of 500 tips = 1,000 tips 10 trays of 96 tips = 960 tips 10 trays of 96 tips = 960 tips orange 0030 000.900 0030 073.444 **(£**\* ■ 0030 073.827 **(€**\* 0030 000.897 yellow **50–1,000 μL,** 71 mm blue 2 bags of 500 tips = 1,000 tips 10 trays of 96 tips = 960 tips 10 trays of 96 tips = 960 tips ■ 0030 073.460 **(€**\* ■ 0030 073.843 **(€\*** 0030 000.927 0030 000.919 blue ■ 0030 072.073 LoRetention 0030 072.030 LoRetention **50–1,250 μL,** 76 mm 2 bags of 500 tips = 1,000 tips 10 trays of 96 tips = 960 tips 10 trays of 96 tips = 960 tips green ■ 0030 073.487 **(€\*** ■ 0030 073.860 **(€\*** 0030 000.935

Вох	Set	Singles	Racks
And the state of t		SE S	- Separation of the Control of the C
Eppendorf Quality™	Eppendorf Quality™	Eppendorf Biopur® (sterile)	Eppendorf Biopur® (sterile)
1 reusable box incl. 96 tips	1 reusable box		
■ 0030 073.002 <b>(€</b> *	incl. 5 trays of 96 tips ■ 0030 073.207 <b>C C</b> * ■ 0030 072.251 LoRetention		
1 reusable box incl. 96 tips	1 reusable box incl. 5 trays of 96 tips	100 tips, individually wrapped	5 racks of 96 tips = 480 tips
■ 0030 073.029 <b>(€*</b>	■ 0030 073.223 <b>(€</b> *	■ 0030 010.019 <b>(€*</b>	■ 0030 075.005 <b>(€*</b>
1 reusable box incl. 96 tips  □ 0030 073.045 <b>(€</b> *	1 reusable box incl. 5 trays of 96 tips □ 0030 073.240 <b>(€*</b>		
	0030 072.260 LoRetention		
1 reusable box incl. 96 tips	1 reusable box incl. 5 trays of 96 tips	100 tips, individually wrapped	5 racks of 96 tips = 480 tips
□ 0030 073.061 <b>(€</b> *	■ 0030 073.266 <b>(€</b> * ■ 0030 072.278 LoRetention	□ 0030 010.035 <b>(€</b> *	□ 0030 075.021 <b>(€</b> *
1 reusable box incl. 96 tips	1 reusable box incl. 5 trays of 96 tips		5 racks of 96 tips = 480 tips
■ 0030 073.088 <b>(€*</b>	■ 0030 073.282 <b>(€</b> *		■ 0030 075.048 <b>(€</b> *
1 reusable box incl. 96 tips	1 reusable box incl. 5 trays of 96 tips	100 tips, individually wrapped	5 racks of 96 tips = 480 tips
■ 0030 073.100 <b>(€</b> *	■ 0030 073.304 <b>C€*</b> ■ 0030 072.286 LoRetention	■ 0030 010.051 <b>(€</b> *	■ 0030 075.064 <b>(€*</b>
1 reusable box incl. 96 tips	1 reusable box		5 racks of 96 tips = 480 tips
,	incl. 5 trays of 96 tips ■ 0030 073.320 <b>(€</b> *		
■ 0030 073.126 <b>(€</b> *	■ 0030 073.320 <b>(€</b> "		■ 0030 075.080 <b>(€</b> *
* The above mentioned on LLPS are in	wyitza dipapastic davisas pecarding to D	irective 98/79/ FC of the European Parlia	pment and the Council

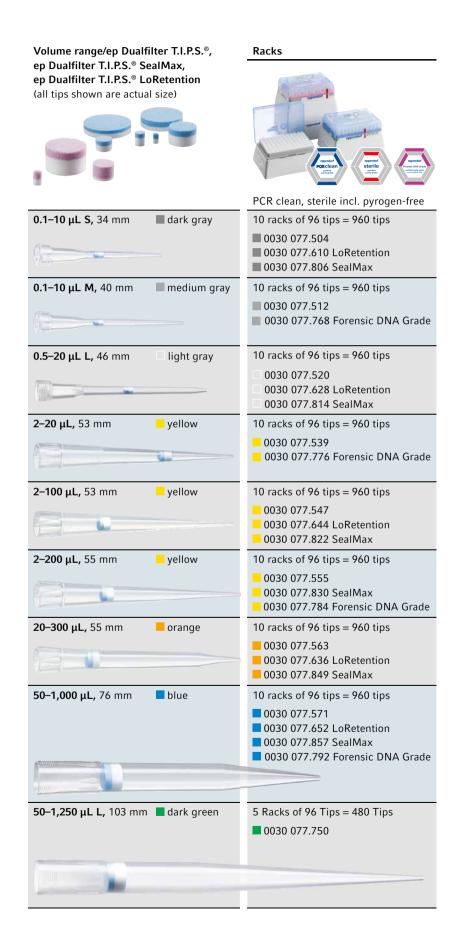
<sup>\*</sup> The above mentioned epT.I.P.S. are in-vitro diagnostic devices according to Directive 98/79/ EC of the European Parliament and the Council dated October 27, 1998.

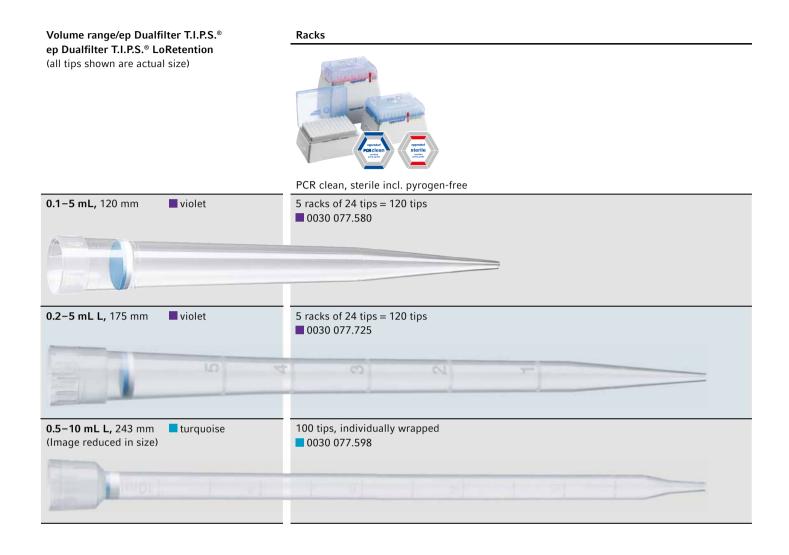


Box	Set	Singles	Racks
The state of the s			bopt states
Eppendorf Quality™	Eppendorf Quality™	Eppendorf Biopur® (sterile)	Eppendorf Biopur® (sterile)
1 reusable box incl. 96 tips ■ 0030 073.622 <b>(€</b> *			5 racks of 96 tips = 480 tips ■ 0030 075.129 <b>C€</b> *
1 reusable box incl. 48 tips	1 reusable box incl. 5 trays of 48 tips		5 racks of 48 tips = 240 tips
■ 0030 073.142 <b>(€</b> *	■ 0030 073.347 <b>(€</b> *		■ 0030 075.102 <b>(€</b> *
1 reusable box incl. 24 tips			5 racks of 24 tips = 120 tips
■ 0030 073.169 <b>(€</b> *			■ 0030 075.137 <b>(€</b> *
			5 racks of 24 tips = 120 tips ■ 0030 075.188 <b>(€</b> *
			5 racks of 24 tips = 120 tips ■ 0030 075.145 <b>(€</b> *

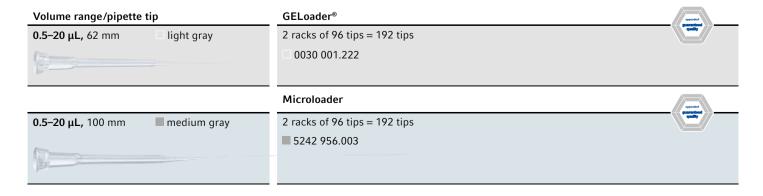
<sup>\*</sup> The above mentioned epT.I.P.S. are in-vitro diagnostic devices according to Directive 98/79/ EC of the European Parliament and the Council dated October 27, 1998.







### Special Tips



### Combitips advanced® and Accessories

Combitips advanced®	Color coding	Eppendorf Quality™ 100 pcs. (4 bags × 25 pcs.)	PCR clean 100 pcs. (4 reclos- able bags × 25 pcs.)	Forensic DNA Grade 100 pcs. (individually wrapped)	Eppendorf Biopur® 100 pcs. (individually wrapped)
0.1 mL	□ white	0030 089.405	0030 089.766		0030 089.618
0.2 mL	light blue	0030 089.413	0030 089.774		0030 089.626
0.5 mL	■ violet	0030 089.421	0030 089.782		0030 089.634
1 mL	yellow	0030 089.430	0030 089.790	0030 089.855	0030 089.642
2.5 mL	green	0030 089.448	0030 089.804	0030 089.863	0030 089.650
5 mL	blue	0030 089.456	0030 089.812	0030 089.871	0030 089.669
10 mL	orange	0030 089.464	0030 089.820		0030 089.677
25 mL*	red	0030 089.472	0030 089.839		0030 089.685
50 mL*	light gray	0030 089.480	0030 089.847		0030 089.693
Eppendorf ViscoTips®	-				
10 mL	orange	0030 089.502			
Accessories					
Adapter advanced					
25 mL adapter (1 pc.)	red	0030 089.715			
50 mL adapter (1 pc.)	light gray	0030 089.723			
25 mL adapter (7 pcs.)	red				0030 089.731
50 mL adapter (7 pcs.)	light gray				0030 089.740
Combitip Rack (for		0030 089.758			
8 Combitips advanced®,					
0.1 mL-10 mL)	_				
Combitips advanced®		0030 089.936			
Assortment pack (1 Combitip					
of each size, incl. adapters)	_				
* 4 boxes of 25 pcs. each; each box containing one adapter.					

## Eppendorf Varitips® P and S for Varipette®

	Order no.
for aspirating from smaller vessels	0030 050.525
	0030 048.130
for aspirating from Narrow-neck vessels and volumetric flasks	0030 050.533
	0030 050.568
	0030 050.541

## epMotion® Automated Pipetting System

Description	Order no.
epT.I.P.S.® Motion pipette tips	
Automatic pipette tips in individual racks for use on the epMotion®. The tip type and size is automatically recognize	•
rack, 10 racks per set. The refill racks from the reload products can be placed in an autoclavable TipHolder adapter.	
Eppendorf Quality™, PCR clean and sterile. Pipette tips available with or without a filter. Testing of production batc	hes (certificates available).
Without filter	
10 μL, sterile, free of pyrogens, volume range 0,2-10 μL, 10 x 96 tips in racks	0030 015.185
<b>50 μL,</b> sterile, free of pyrogens, volume range 1–50 μL, $10 \times 96$ tips in racks	0030 015.207
300 μL, sterile, free of pyrogens, volume range 20–300 μL, $10 \times 96$ tips in racks	0030 015.223
1,000 μL, sterile, free of pyrogens, volume range 40–1,000 μL, $10 \times 96$ tips in racks	0030 015.240
<b>50 μL,</b> Eppendorf Quality™, volume range 1–50 μL, 10 × 96 tips in racks	0030 014.405
<b>300 μL,</b> Eppendorf Quality™, volume range 20–300 μL, 10 × 96 tips in racks	0030 014.448
<b>1,000 μL,</b> Eppendorf Quality™, volume range 40–1,000 μL, 10 × 96 tips in racks	0030 014.480
<b>50 μL,</b> Eppendorf Quality™, Reloads, volume range 1–50 μL, 24 × 96 tips	0030 014.421
<b>300 μL,</b> Eppendorf Quality™, Reloads, volume range 20–300 μL, 24 × 96 tips	0030 014.464
<b>1,000 μL,</b> Eppendorf Quality™, Reloads, volume range 40–1,000 μL, 24 × 96 tips	0030 014.502
<b>SafeRacks, 50 μL,</b> Eppendorf Quality™, volume range 1–50 μL , 10 × 96 tips	0030 014.600
<b>SafeRacks, 300 μL,</b> Eppendorf Quality™, volume range 20–300 μL, 10 × 96 tips	0030 014.626
SafeRacks, 1,000 μL, Eppendorf Quality™, volume range 40–1,000 μL, 10 × 96 tips	0030 014.642
With filter	
<b>10 μL</b> , PCR clean, sterile, free of pyrogens, volume range 0,2-10 μL, 10 x 96 tips in racks	0030 015.193
<b>50 μL</b> , PCR clean, sterile, free of pyrogens, volume range 1–50 μL, 10 × 96 tips in racks	0030 015.215
300 μL, PCR clean, sterile, free of pyrogens, volume range 20–300 μL, $10 \times 96$ tips in racks	0030 015.231
<b>1,000 μL,</b> PCR clean, sterile, free of pyrogens, volume range 40–1,000 μL, 10 × 96 tips in racks	0030 015.258
<b>50 μL,</b> PCR clean, volume range 1–50 μL, 10 × 96 tips in Racks	0030 014.413
300 μL, PCR clean, volume range 20–300 μL, 10 × 96 tips in Racks	0030 014.456
1,000 μL, PCR clean, volume range 40–1,000 μL, 10 × 96 tips in Racks	0030 014.499
<b>50 μL</b> , PCR clean, Reloads, volume range 1–50 μL, 24 × 96 tips	0030 014.430
50 μL, PCR clean, sterile, free of pyrogens, Reloads , volume range 1–50 μL, $24 \times 96$ tips	0030 014.537
<b>300 μL,</b> PCR clean, Reloads, volume range 20–300 μL, 24 × 96 tips	0030 014.472
300 μL, PCR clean, sterile, free of pyrogens, Reloads , volume range 20–300 μL, 24 × 96 tips	0030 014.529
<b>1,000 μL,</b> PCR clean, Reloads, volume range 40–1,000 μL, 24 × 96 tips	0030 014.510
SafeRacks, 50 μL, PCR clean, volume range 1–50 μL, 10 × 96 tips	0030 014.618
SafeRacks, 300 μL, PCR clean, volume range 20–300 μL, 10 × 96 tips	0030 014.634
SafeRacks, 1,000 μL, PCR clean, volume range 40–1,000 μL, 10 × 96 tips	0030 014.650
Reservoir rack modules	
Are inserted in a Reservoir rack. They can be temperature controlled with a thermal module for heating and cooling	ı.
PCR 0.2 mL, for 8 × 0.2 mL PCR tubes	5075 799.049
Eppendorf Tubes® 5.0 mL, for 4 × 5 mL tubes	5075 799.340
Eppendorf Safe-Lock, for 4 × 0.5/1.5/2 mL tubes	5075 799.081
Tubes Ø 12 mm, for $4 \times Ø$ 12 mm tubes	5075 799.103
<b>Tubes Ø 16 mm,</b> for $4 \times Ø$ 16 mm tubes	5075 799.120
<b>15 mL conical tubes,</b> for $4 \times \emptyset$ 17 mm tubes	5075 799.162
	5075 799.189
<b>50 mL conical tubes,</b> for $2 \times \emptyset$ 29 mm tubes	
50 mL conical tubes, for 2 × Ø 29 mm tubes  10 mL reservoir, for use with reservoir rack, 5 × 10 large volume reservoirs, PCR clean	
<b>10 mL reservoir,</b> for use with reservoir rack, $5 \times 10$ large volume reservoirs, PCR clean	0030 126.521

## Eppendorf Pipette/epT.I.P.S.® Combinations

Eppendorf Rese	earch® plus*	0.1 μL− 10 μL (S)	0.1 μL− 10 μL (M)	0.1 μL− 20 μL	0.5 μL− 20 μL L	2 μL− 20 μL	2 μL− 100 μL	2 μL− 200 μL	20 μL− 300 μL
		■ dark gray	■ mediu	-	light gray	yellow	yellow	yellow	orange
ep T.I.P.S.®		<u>√</u>		√	<b>√</b>				<u>√</u>
ep T.I.P.S.® LoR	etention	<b>√</b>			<b>√</b>			<b>─</b> ✓	
ep Dualfilter T.I	.P.S.®	<b>√</b>	<b>√</b>		<b>√</b>	<b>─</b> ✓	<b>√</b>	<b>√</b>	<b>√</b>
ep Dualfilter T.I.	P.S.® LoRetention	<b>√</b>			<b>√</b>		<b>√</b>		<b>√</b>
ep Dualfilter T.I.	P.S.® SealMax	<b>√</b>		<b>√</b>			<b>√</b>	<b>√</b>	<b>√</b>
Fixed volume									
10 μL	medium gray	<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>				
20 μL	light gray				<b>√</b>				
10 μL	yellow					<b>─</b> ✓	<b>√</b>	<b>√</b>	
20 μL	yellow					<b>─</b> ✓	<b>√</b>	<b>√</b>	✓
25 μL, 50 μL, 100 μL	yellow						<b>√</b>	<b>√</b>	<b>√</b>
200 μL	yellow							<b>√</b>	✓
200 μL, 250 μL, 500 μL, 1,000 μL									
Adjustable volui	me								
0.1 μL-2.5 μL	dark gray	<b>─</b> ✓	<b>√</b>	✓					
0.5 μL-10 μL	medium gray	✓	✓	✓	✓				
2 μL-20 μL	light gray	√	✓	✓	✓				
2 μ-20 μL	yellow					✓	✓	✓	√
10 μL-100 μL	yellow					√	✓	✓	✓
20 μL-200 μL	yellow					✓	✓	✓	✓
30 μL-300 μL	orange					√	√	✓	✓
100 μL-1,000 μL	blue								
0.5 mL-5 mL	■ violet								
1 mL-10 mL	■ turquoise								

Eppendorf Xplorer® Eppendorf Xplorer® plus	0.1 μL- 10 μL (S)	0.1 μL− 10 μL (M)	0.1 μL− 20 μL	0.5 μL− 20 μL L	2 μL− 20 μL	2 μL− 100 μL	2 μL− 200 μL	20 μL− 300 μL
	dark gray	■ mediu	ım gray	light gray	yellow	yellow	yellow	orange
ep T.I.P.S.®	<b></b> ✓		✓	✓		<b></b> ✓		✓
ep T.I.P.S.® LoRetention	✓			✓			✓	
ep Dualfilter T.I.P.S.®	<b>√</b>	<b>√</b>		<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>	✓
ep Dualfilter T.I.P.S.® LoRetention	<b>√</b>			<b>√</b>		<b>√</b>		<b>√</b>
ep Dualfilter T.I.P.S.® SealMax	<b>√</b>		<b>√</b>			<b>─</b> ✓	<b>√</b>	<b>√</b>
0.5 μL−10 μL ■ medium gray	<b>√</b>	<u> </u>	<b>√</b>	<b>─</b> ✓				
5 μL–100 μLyellow					√	<b>√</b>	<b>√</b>	<b>√</b>
15 μL-300 μL orange					√	√	√	✓
50 μL-1000 μL <b>l</b> blue								
50 μL−1200 μL <b>g</b> reen								
0.25 mL−5 mL violet								
0.5 mL−10 mL turquoise								

<sup>✓:</sup> Compatible, ✓: Limited volume

<sup>\*</sup>This pipette is an in-vitro diagnostic device according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.

50 μL− 1,000 μL ■ blue	50 μL− 1,250 μL ■ green	50 μL− 1,250 μL L ■ dark green	0.25 mL− 2.5 mL red	0.1 mL− 5 mL ■ violet	0.2 mL− 5 mL L ■ violet	0.5 mL− 10 mL turquoise	0.5 mL− 10 mL L turqouise	GELoader Microloader light gray
<b>√</b>	<u>√</u>	<u>√</u>	<b>─</b> ✓	<b>√</b>	<b>√</b>	<u> </u>	<u> </u>	<u> </u>
<b>√</b>		<i>-</i>						
<u> </u>		·				<u> </u>		
<b>√</b>		·						
								<b>√</b>
								✓
✓	✓	✓						
	•							
		- <u></u>						<b>√</b>
	_							
✓	✓	✓						
				<b>─</b> ✓	✓			
50 μL-	50 μL−	50 μL-	0.25 mL-	0.1 mL-	0.2 mL-	0.5 mL-	0.5 mL-	GELoader
1,000 μL	1,250 μL	1,250 μL L	2.5 mL	5 mL	5 mL L	10 mL	10 mL L	Microloader
blue	green	dark green	red	violet	violet	turquoise	turqouise	light gray
		<b>√</b>	<b>─</b>	<b>─</b>				
<b>─</b> ✓		<b>√</b>		<b>─</b> ✓		<b>─</b>	<b>─</b>	
<b>√</b>		·						
<b>√</b>				-	-			
								✓
<b>V</b>								
	-	•		<b>-</b> ✓				
						<b>√</b>	<b>√</b>	

## Eppendorf Pipette/epT.I.P.S.® Combinations

Eppendorf Reference® 2*	0.1 μL− 10 μL (S) ■ dark gray	0.1 μL− 10 μL (M) ■ mediu	0.1 μL- 20 μL ım gray	<b>0.5 μL−</b> <b>20 μL L</b> ■ light gray	2 μL- 20 μL yellow	2 μL− 100 μL yellow	2 μL- 200 μL yellow	20 μL- 300 μL orange
ep T.I.P.S.®	<b>√</b>		<u> √</u>	<i>√</i>	<del></del>	<b>√</b>	<b>√</b>	
ep T.I.P.S.® LoRetention	<b>√</b>			<b>√</b>			<b>√</b>	
ep Dualfilter T.I.P.S.®	<b>√</b>	<b>─</b> ✓		<b>√</b>	<b>─</b> ✓	<b>√</b>	<b>√</b>	<b>√</b>
ep Dualfilter T.I.P.S.® LoRetention	<b>√</b>			<b>√</b>		<b>√</b>		<b>√</b>
ep Dualfilter T.I.P.S.® SealMax	<b>─</b> ✓		<b>√</b>			<b>√</b>	<b>√</b>	<b>√</b>
Fixed volume								
1 μL, 2 μL <b>d</b> dark gray	<b>√</b>	<b>√</b>	<b>√</b>					
5 μL, 10 μL medium gray	✓	✓	✓	✓				
20 μL light gray			✓	✓				
10 μL yellow					✓	✓	✓	
20 μL yellow					✓	✓	✓	✓
25 μL, 50 μL,  yellow 100 μL						✓	✓	✓
200 μL yellow							<b>√</b>	<b>√</b>
200 μL, 250 μL,  blue  blue  blue								
2 mL, 2.5 mL  ■ red								
Adjustable volume								
0.1 μL–2.5 μL 🔳 dark gray	✓	<b>√</b>	✓					
0.5 μL-10 μL medium gray		✓	✓	<b>√</b>				
2 μL–20 μL light gray	✓		✓	<b>√</b>				
2 μL–20 μL yellow						✓	<b></b> ✓	√
10 μL-100 μL yellow						<b>√</b>	<b>√</b>	√
20 μL-200 μL yellow					√		<b>√</b>	✓
30 μL–300 μL orange							√	✓
100 μL−1,000 μL <b>l</b> blue								
0.25 mL−2.5 mL								
0.5 mL−5 mL violet								
1 mL-10 mL turquoise								

 $<sup>\</sup>checkmark$ : Compatible,  $\checkmark$ : Limited volume

<sup>\*</sup>This pipette is an in-vitro diagnostic device according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.

50 μL− 1,000 μL ■ blue	50 μL− 1,250 μL ■ green	50 μL− 1,250 μL L ■ dark green	0.25 mL− 2.5 mL ■ red	0.1 mL− 5 mL ■ violet	0.2 mL− 5 mL L ■ violet	0.5 mL− 10 mL turquoise	0.5 mL− 10 mL L turqouise	GELoader Microloader  light gray
<b>√</b>	<b>√</b>	<b>√</b>	<del></del>	<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>
<b>─</b> ✓								
		✓		<b>/</b>	✓	✓	<b>√</b>	
		·						
								<b>√</b>
								•
✓	✓	✓						
			✓					
								<b>√</b>
								<b>√</b>
✓	<b>√</b>	<b>√</b>						
			<b>√</b>					
				✓	✓			
						<b></b>	<b>√</b>	





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