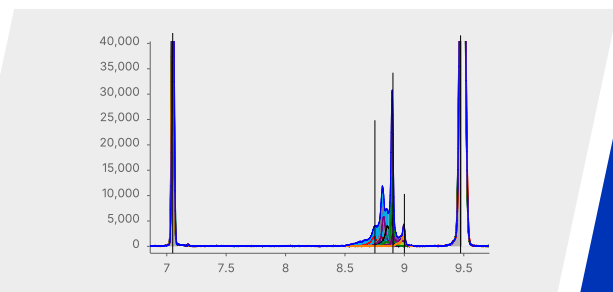




# Meet the Maurice Family

Accelerating Biotherapeutic Development  
Using Capillary Electrophoresis





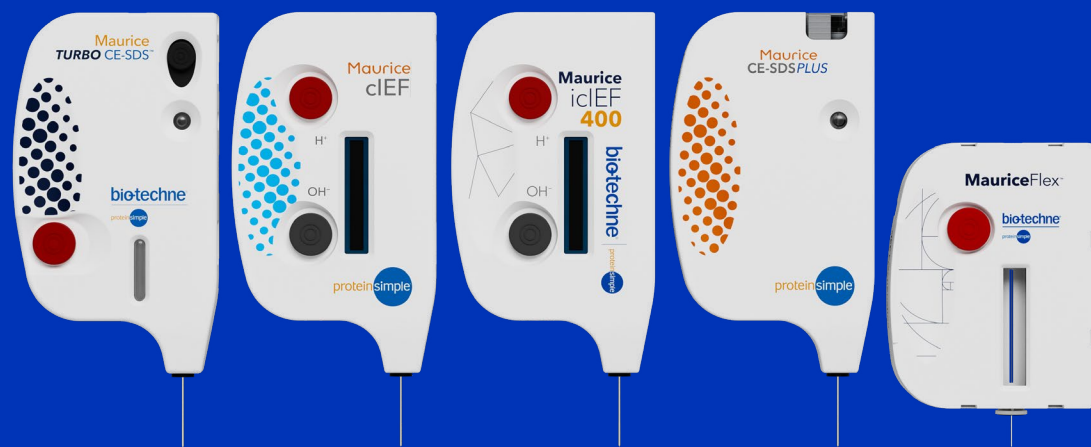
## Multiple Platforms to meet your specific needs

### Choose your options:

- ✓ Analyze biomolecular charge with imaged capillary isoelectric focusing (icIEF)
- ✓ Analyze protein size and impurities with capillary electrophoresis-sodium dodecyl sulfate (CE-SDS)
- ✓ Collect charge isoform fractions with icIEF-based fractionation for further characterization



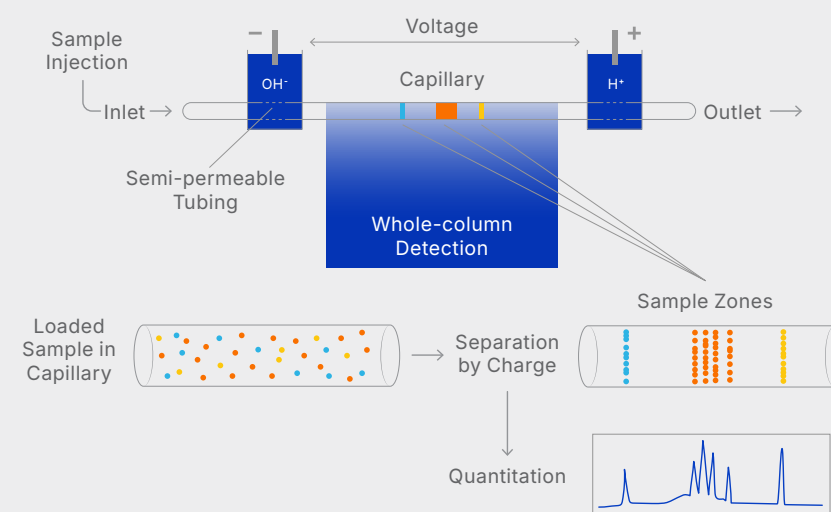
Learn More  
Scan the QR Code or visit online:  
[bio-techne.com/maurice](http://bio-techne.com/maurice)



## Unleash the Power of Capillary Electrophoresis in Your Lab

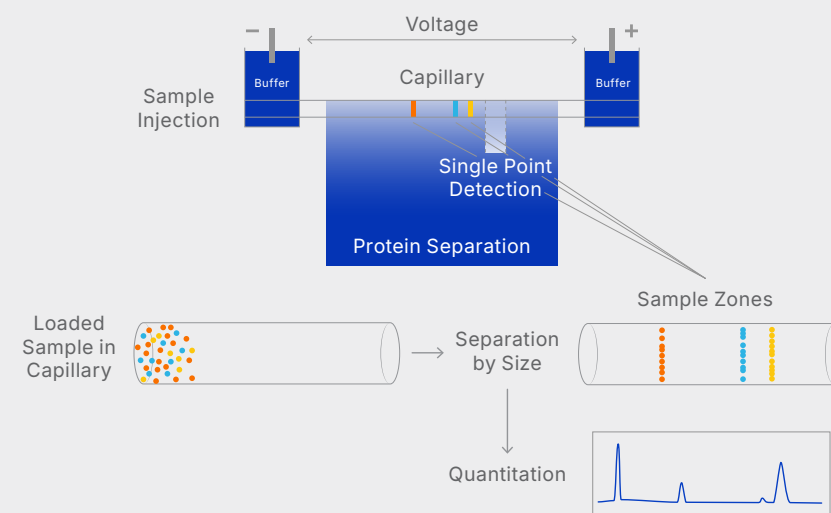
### icIEF Technology

- ✓ Ensure consistent results with pre-assembled cartridges and automated sample injection
- ✓ Maintain high resolution with whole-column imaging
- ✓ Get high-quality data in 10-15 minutes



### CE-SDS Technology

- ✓ Improve reproducibility with simplified sample prep and automated sample injection
- ✓ Go green and analyze samples without any acrylamide
- ✓ Get high-quality quantitative data in as little as 5.5 minutes



## Choose the Right Maurice Instrument for **Your Lab**

### System Capabilities:

Whether you need a single solution or multiple capabilities, our Maurice platforms offer a range of products to meet your needs—icIEF, CE-SDS, or both, plus fractionation.

TABLE // 01  
Instrument System Capabilities






	MauriceFlex	Maurice	Maurice C.	Maurice S.
 icIEF Fractionation	✓			
 icIEF (Both Cartridges)	✓	✓	✓	
 CE-SDS (Both Cartridges)	✓	✓		✓
Absorbance Detection	✓	✓	✓	✓
Fluorescence Detection	✓	✓	✓	
On-board Mixing		✓	✓	

FIGURE // 01  
Injections 1 and 400

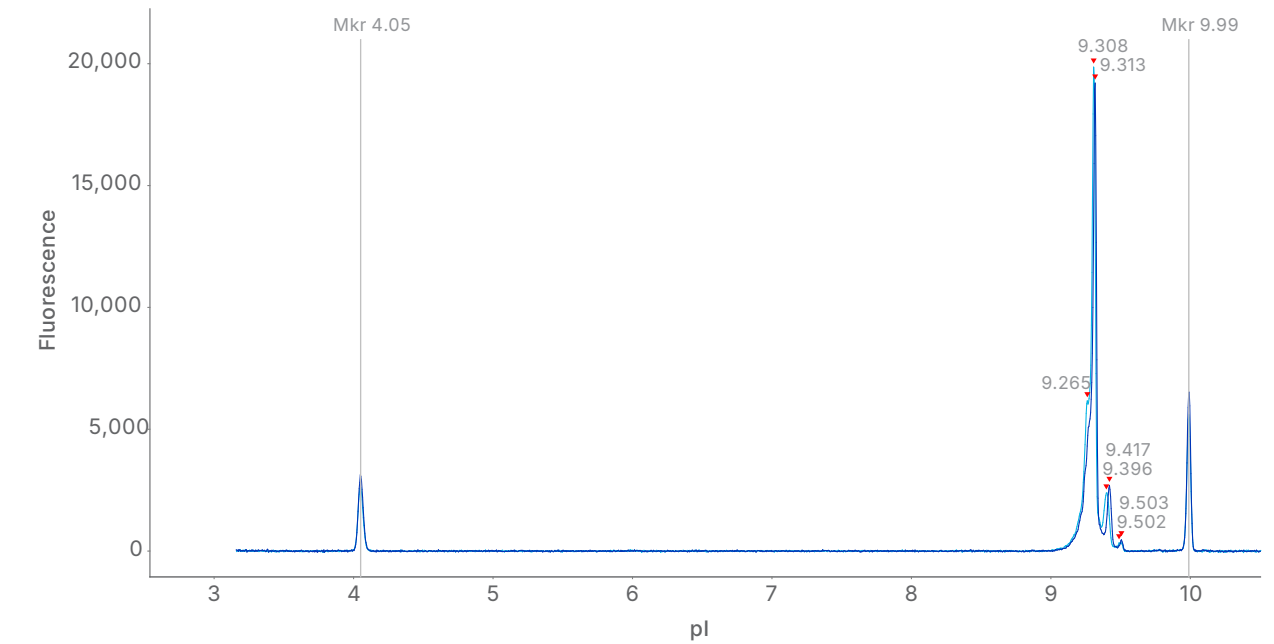


Figure 01. Overlay of the first and last injection of a batch analyzed with the icIEF 400 cartridge. The results are reproducible throughout the batch.

FIGURE // 02  
Simplify Lab Life

### 1. Insert cartridge



### 2. Add sample



### 3. Press start

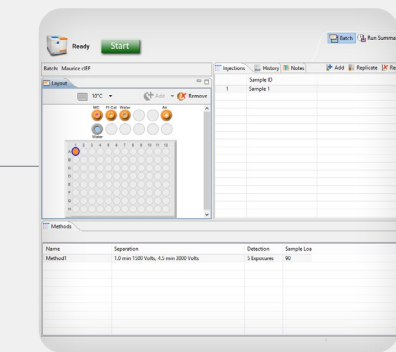
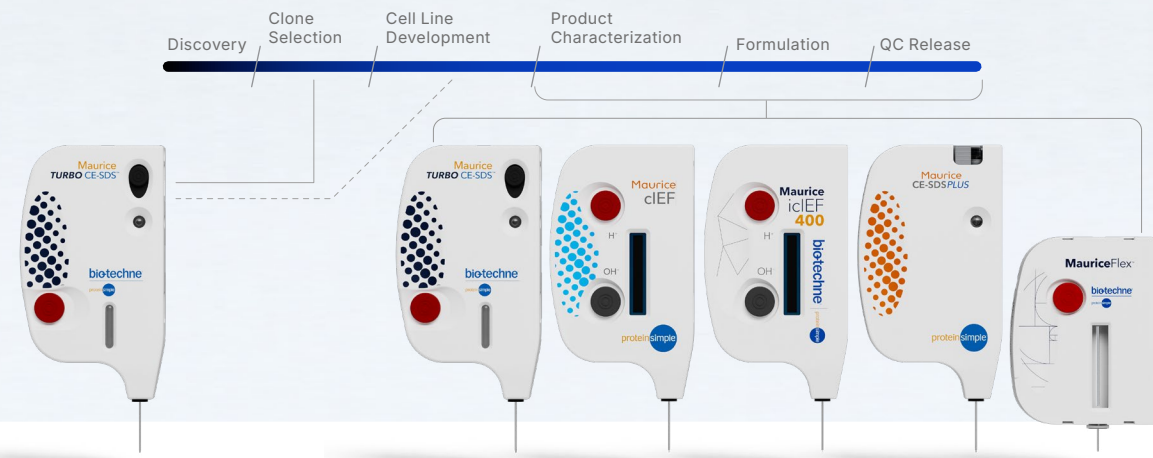


Figure 02. Overview of the Maurice/MauriceFlex workflow. The plug-and-play systems reduce the amount of time and labor required to run experiments, while simultaneously ensuring data consistency.

## Use Maurice/MauriceFlex Systems in Multiple Phases of Development



Fast, high-quality  
CE-SDS data for high  
throughput screening

- CE-SDS, icIEF, and icIEF fractionation for protein analysis
- Easy method transfer across stages
- 21 CFR Part 11 compliance

TABLE // 02

Overview of  
Consumables & Kits



Visit our website  
for a complete list of  
consumables & kits  
[bio-techne.com/ice-  
consumables](https://bio-techne.com/ice-consumables)

Product	Part Number
MauriceFlex cIEF Fractionation Cartridge	PS-MC02-F
Maurice icIEF 400 Cartridge	PS-MC02-400C
Maurice icIEF Cartridge	PS-MC02-C
Maurice Turbo CE-SDS Cartridge	PS-MC02-TS
Maurice CE-SDS PLUS Cartridge	PS-MC02-SP
MauriceFlex cIEF Fractionation Method Development Kit	PS-MDK01-F
Maurice cIEF Method Development Kit	PS-MDK01-C
Maurice CE-SDS PLUS Application Kit	PS-MAK03-S
Maurice Turbo CE-SDS Application Kit	PS-MAK01-TS



# Maximize Your MauriceFlex One Instrument Multiple Solutions Capabilities



## Advantages:

- ✓ Run routine icIEF and CE-SDS assays
- ✓ Collect charge variant fractions (icIEF) for further characterization using mass spectrometry (MS) or surface plasmon resonance (SPR)
- ✓ Use any MS system of your choice for downstream characterization

## Workflow: Fraction collection with MauriceFlex for downstream characterization using MS

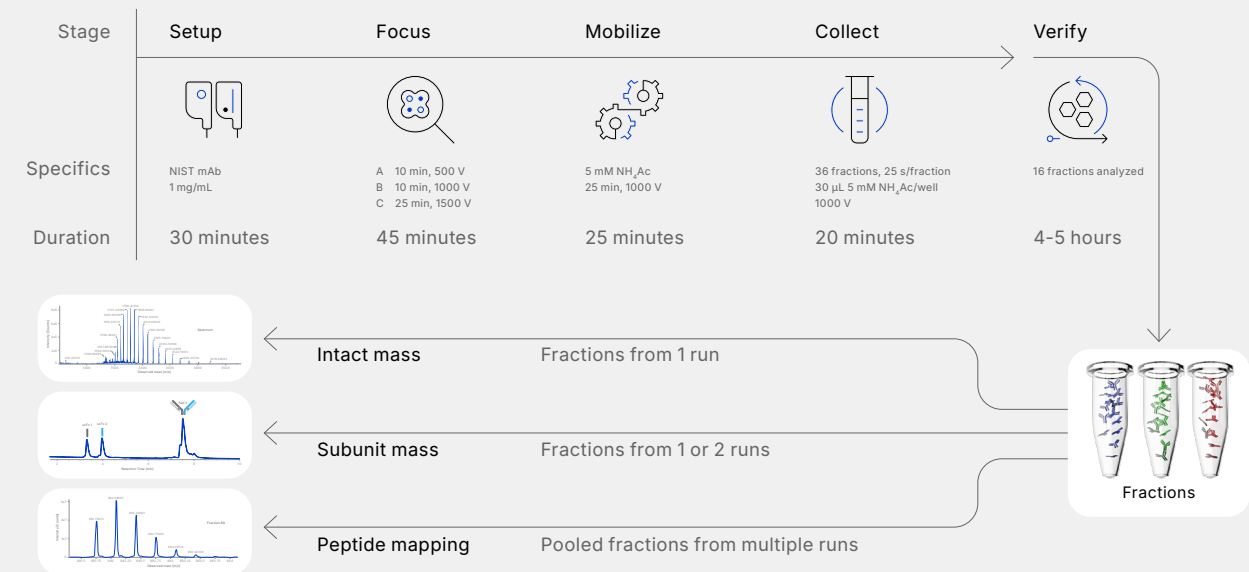


FIGURE // 03

## Fraction Collection with MauriceFlex for Downstream Characterization with Mass Spectrometry

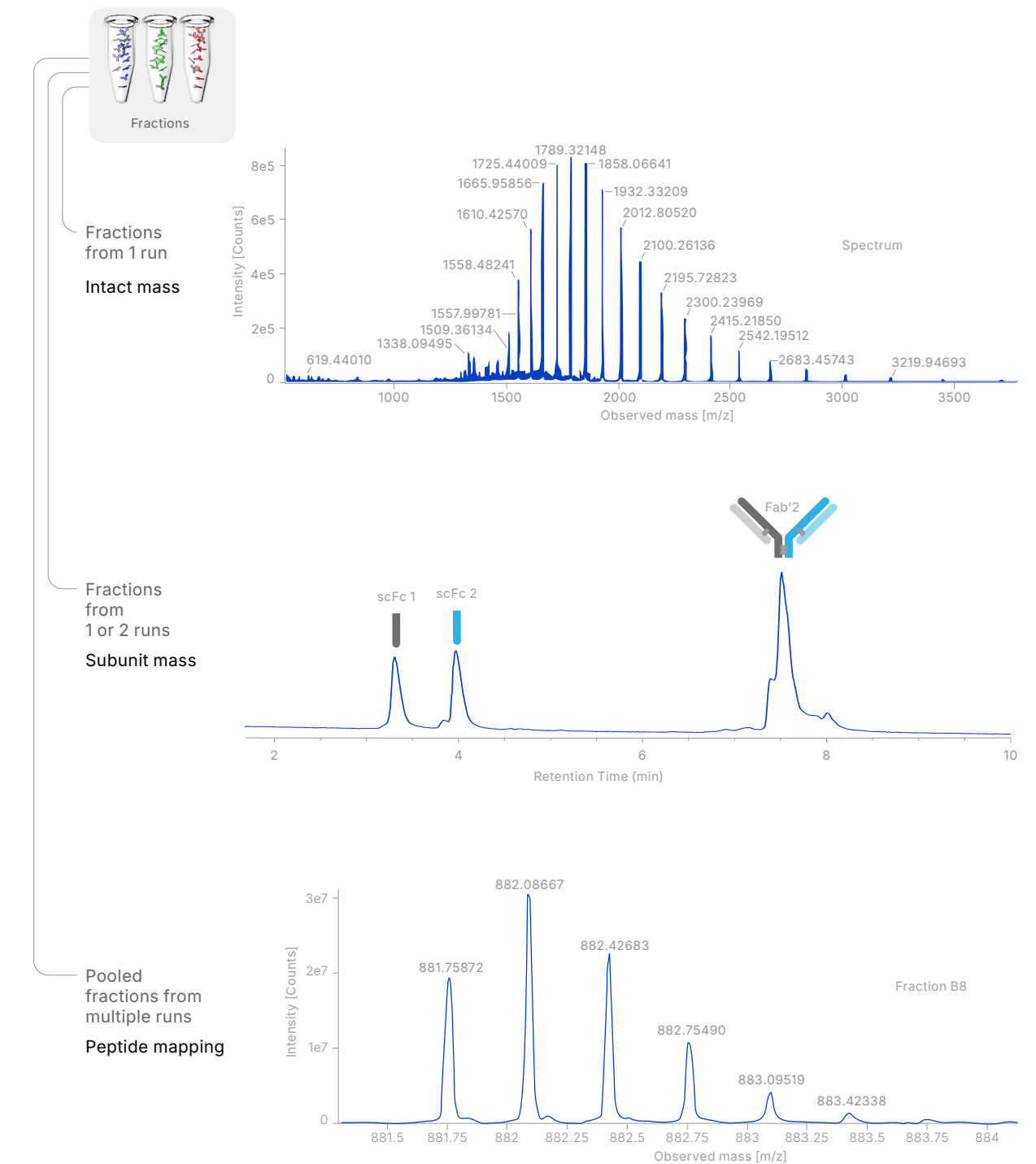


Figure 03. Intact mass and Peptide mapping data. Data referenced from T. Menneteau, *et al*, "Therapeutic Protein Charge Variant Characterization with Intact Mass and Peptide Mapping Following Microgram Preparative Capillary Isoelectric Focusing Electrophoresis Fractionation", 72nd Conference on Mass Spectrometry and Allied Topics, Anaheim, CA, USA, June 2024, Poster TP635.

Subunit mass data taken from application note Comparing Charge Variants: Innovator vs Biosimilar Using the MauriceFlex System & Mass Spectrometry.

**FIGURE // 04**  
**Fractionation of 3 Charge Variant Clusters**

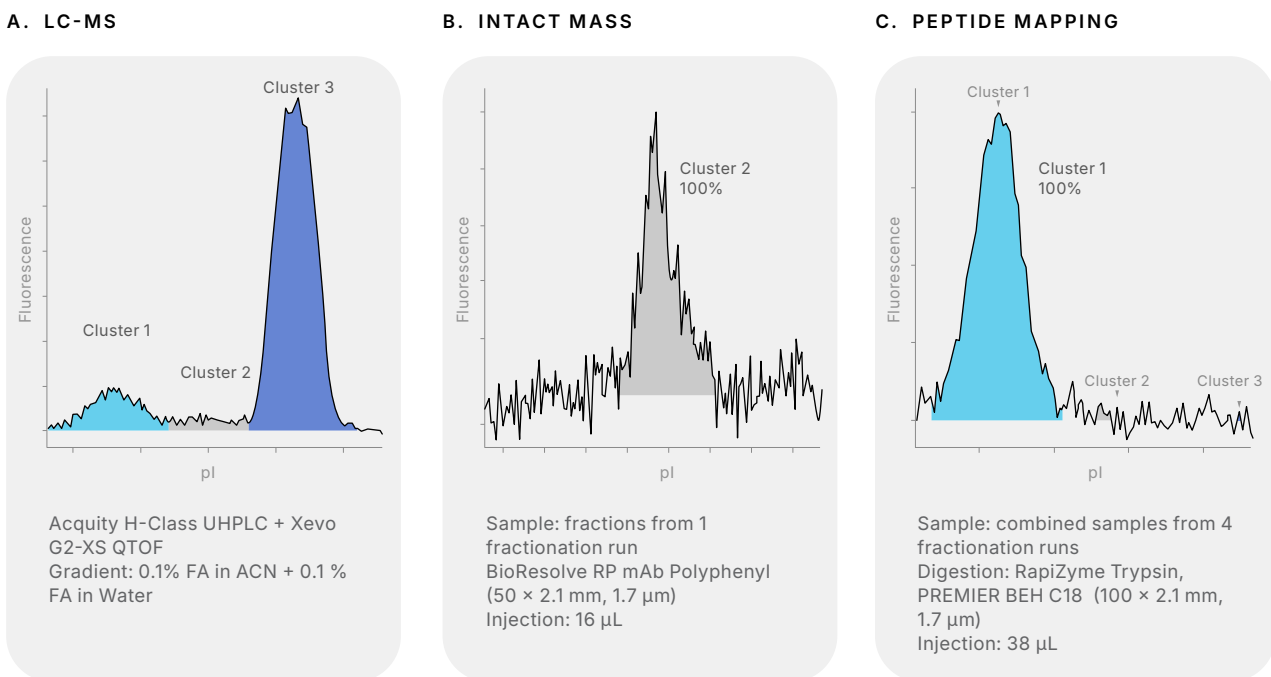
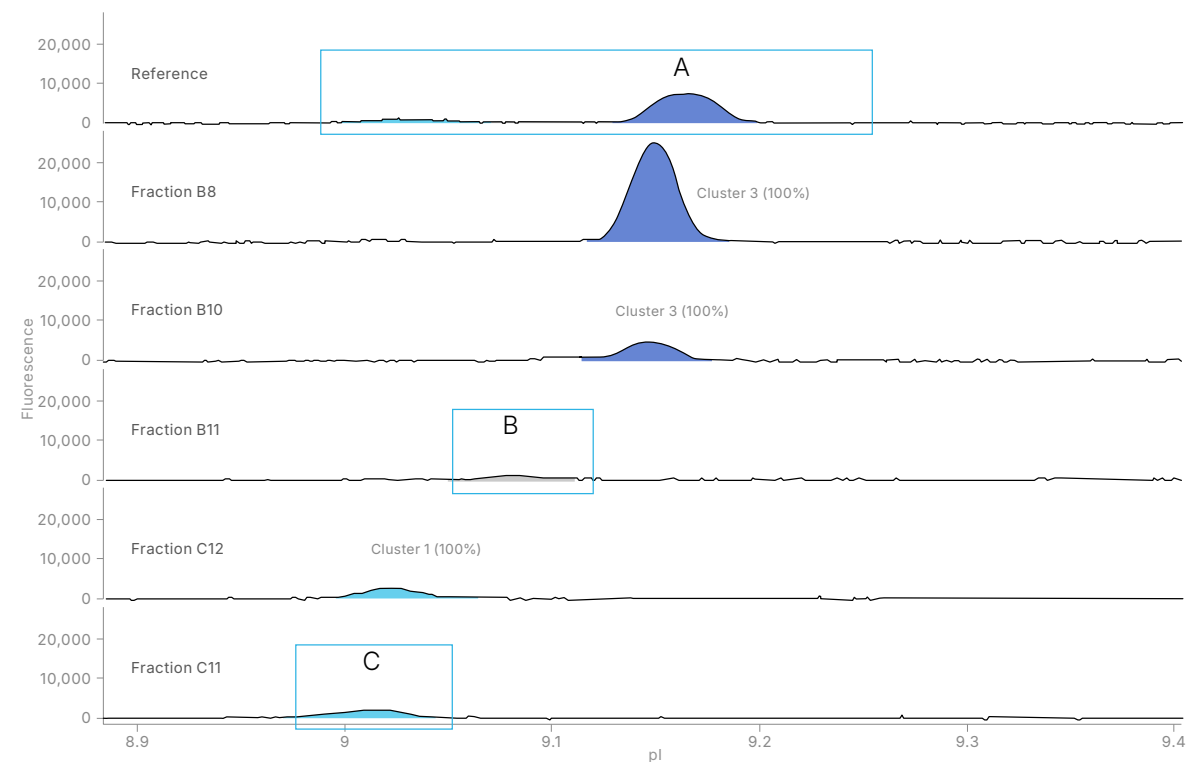


Figure 04. Representative electropherograms of an antibody collected after fractionation and verified with analytical icIEF on the MauriceFlex system. Fractions were analyzed using an array of characterization methods. Data referenced from T. Menneteau, *et al*, "Therapeutic Protein Charge Variant Characterization with Intact Mass and Peptide Mapping Following Microgram Preparative Capillary Isoelectric Focusing Electrophoresis Fractionation", 72nd Conference on Mass Spectrometry and Allied Topics, Anaheim, CA, USA, June 2024, Poster TP635.

**FIGURE // 05**  
**The MauriceFlex + Alto Workflow**

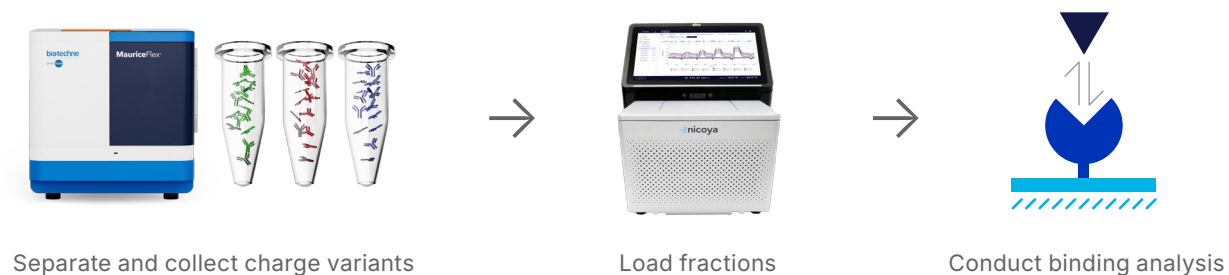


Figure 05. Biotherapeutic charge heterogeneity analysis and charge variant fraction collection workflow with the MauriceFlex System, followed by binding analysis on the Alto System.

**FIGURE // 06**  
**Comparative Analysis of Binding Kinetics**

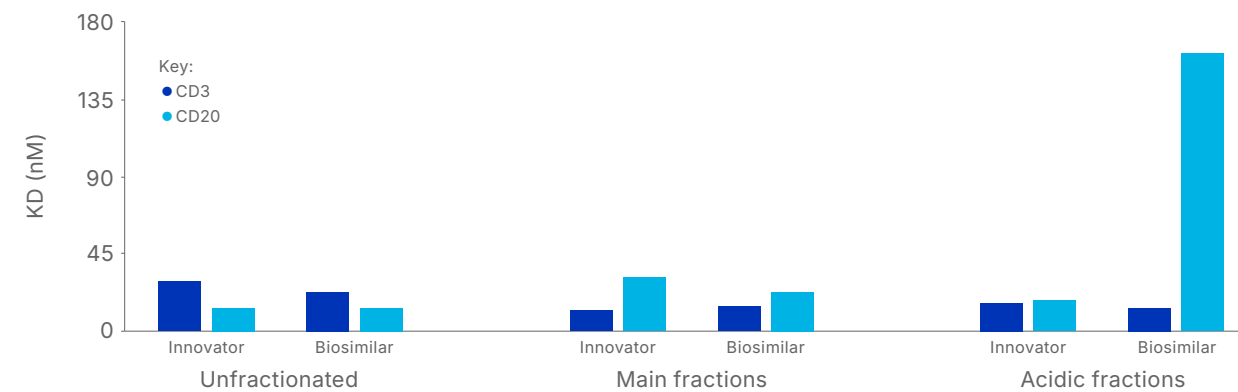


Figure 06. A comparative analysis of binding kinetics (KD) between different charge variant fractions of Mosunetuzumab and a research-grade biosimilar and the CD3 epsilon and CD20 antigens. Data are shown for unfractionated, main fractions, and acidic fractions of innovator and biosimilar samples binding with each antigen. Full details of this study are available in the application note A Novel icIEF Fractionation & SPR-Based Workflow for Correlating the Charge Structure to the Function of a Bispecific Antibody.

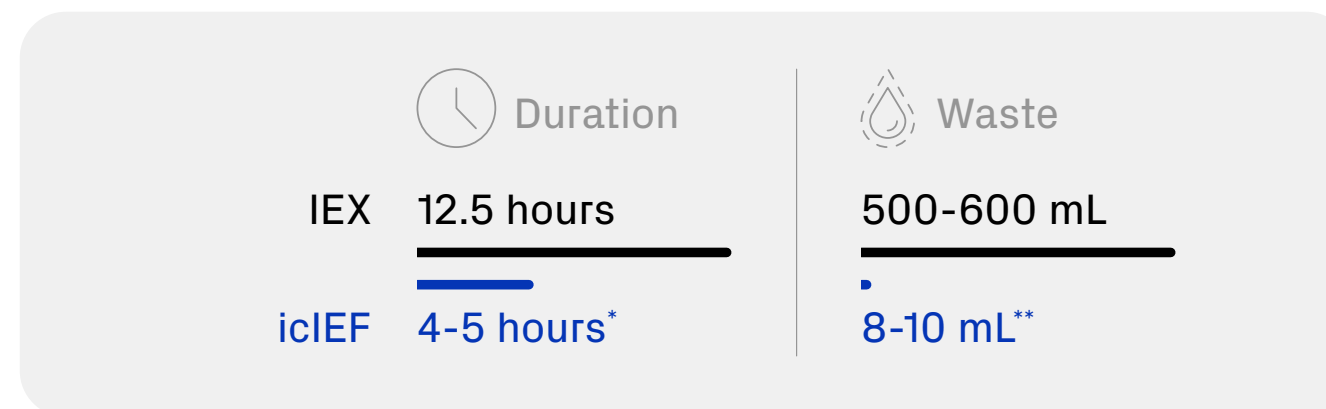
## Obtain High Resolution, Reproducible Charge Separation with MauriceFlex, Maurice, & Maurice C. Systems



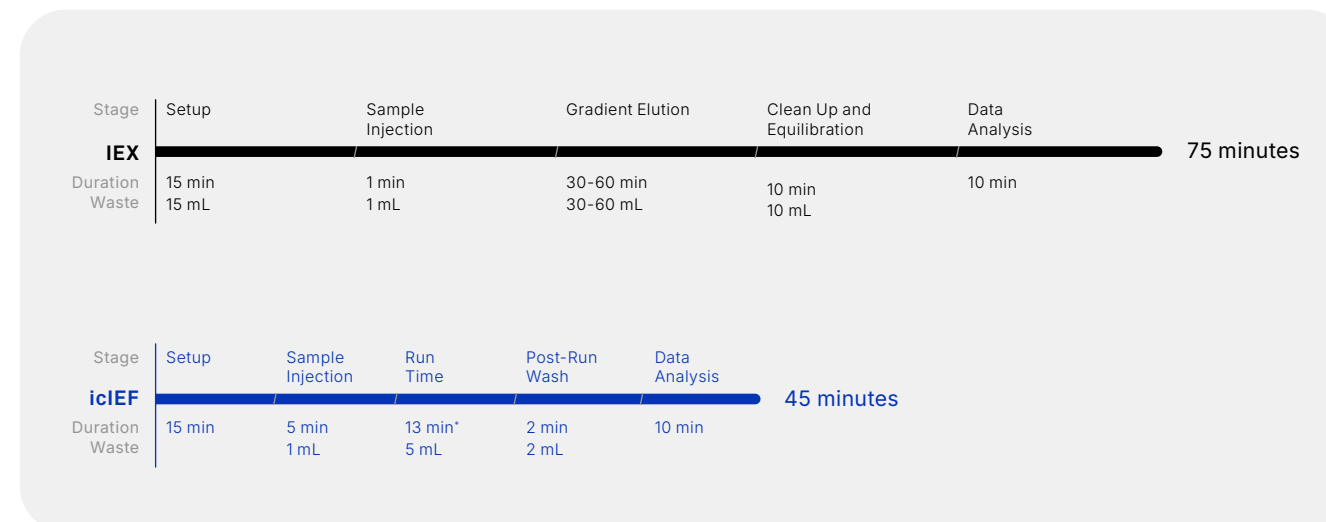
## IEX vs icIEF workflows for routine analysis

Improve resolution, save time, and go green in charge analysis.

Workflow Totals (10 samples):



Workflow (per sample):



### Advantages:

- ✓ Develop your methods in a day
- ✓ Analyze a variety of molecules including mAbs, AAVs, fusion proteins and more
- ✓ Get data in 10-15 minutes

See how easy it is to use the Maurice system for biomolecular charge & size analysis



### Maurice Demo

Scan the QR Code or Contact: [bio-techne.com/instruments/ice](http://bio-techne.com/instruments/ice)



\*Run time can be further shortened with the new SupersonicIEF method by McElroy & Heger published in Electrophoresis. [Read the full paper here for faster icIEF.](#)

\*\*Same total amount of waste generated for 1-12 samples

## Results from the MauriceFlex, Maurice, & Maurice C. Systems:

- ✓ High resolution, reproducible charge heterogeneity separation
- ✓ Regulatory compliance with industry-approved software
- ✓ Choose between absorbance and native fluorescence detection modes

FIGURE // 07  
icIEF Analysis of NIST mAb

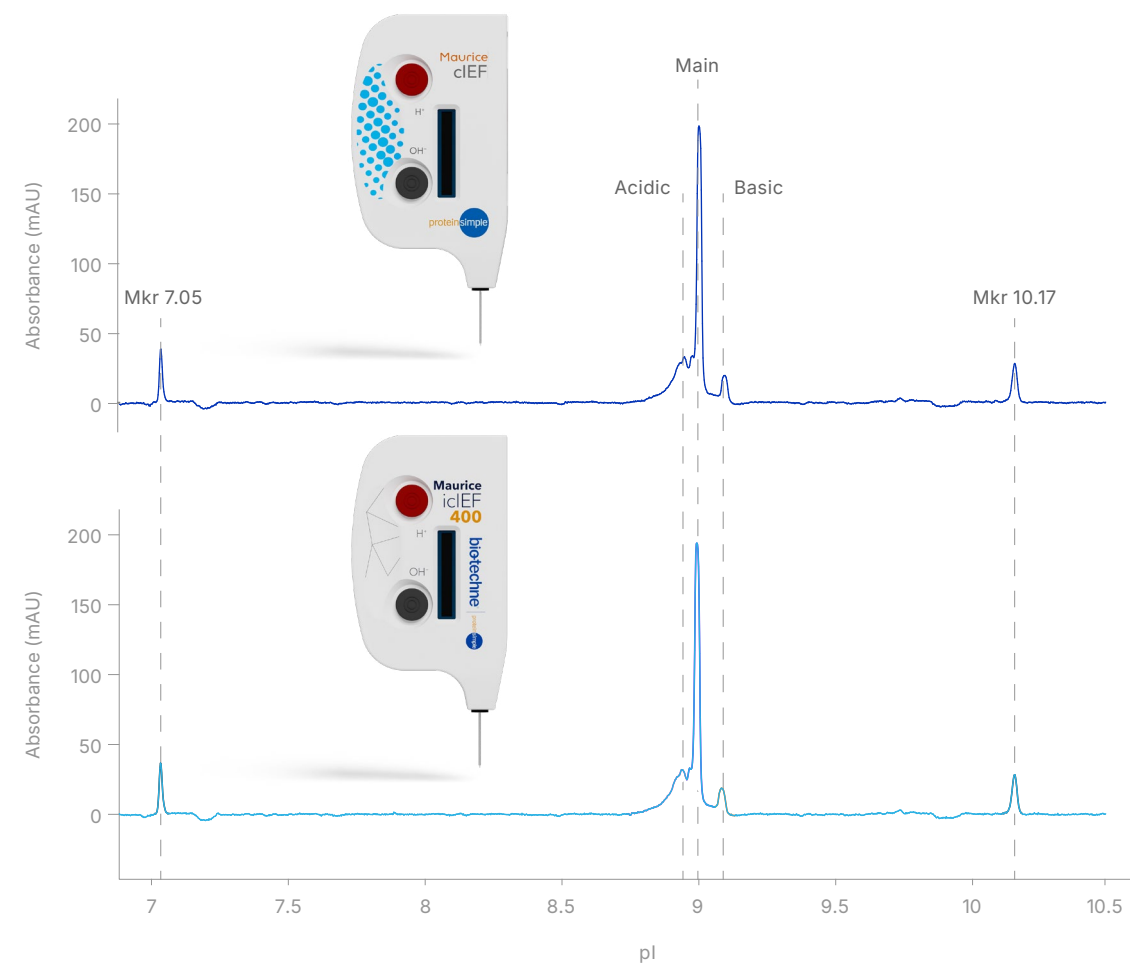


Figure 07. A comparison of charge profiles of NIST mAb obtained from the Maurice icIEF cartridge and icIEF 400 cartridge, run on the Maurice system. Both methods are comparable.

FIGURE // 08  
Comparison of 8 Different AAV Serotypes with Maurice icIEF

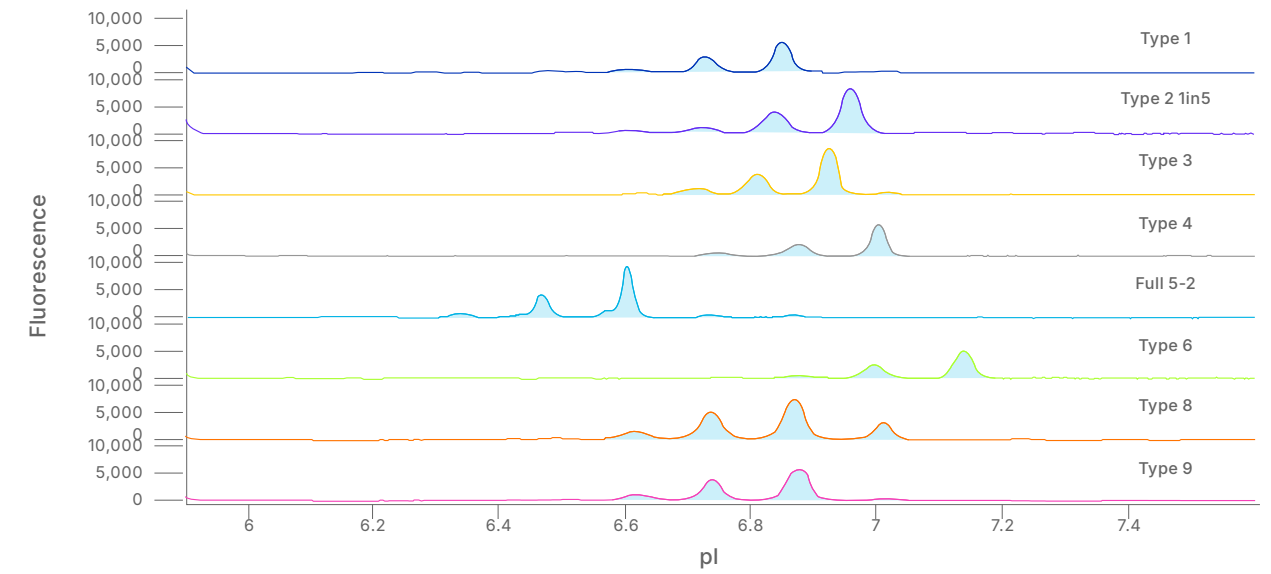
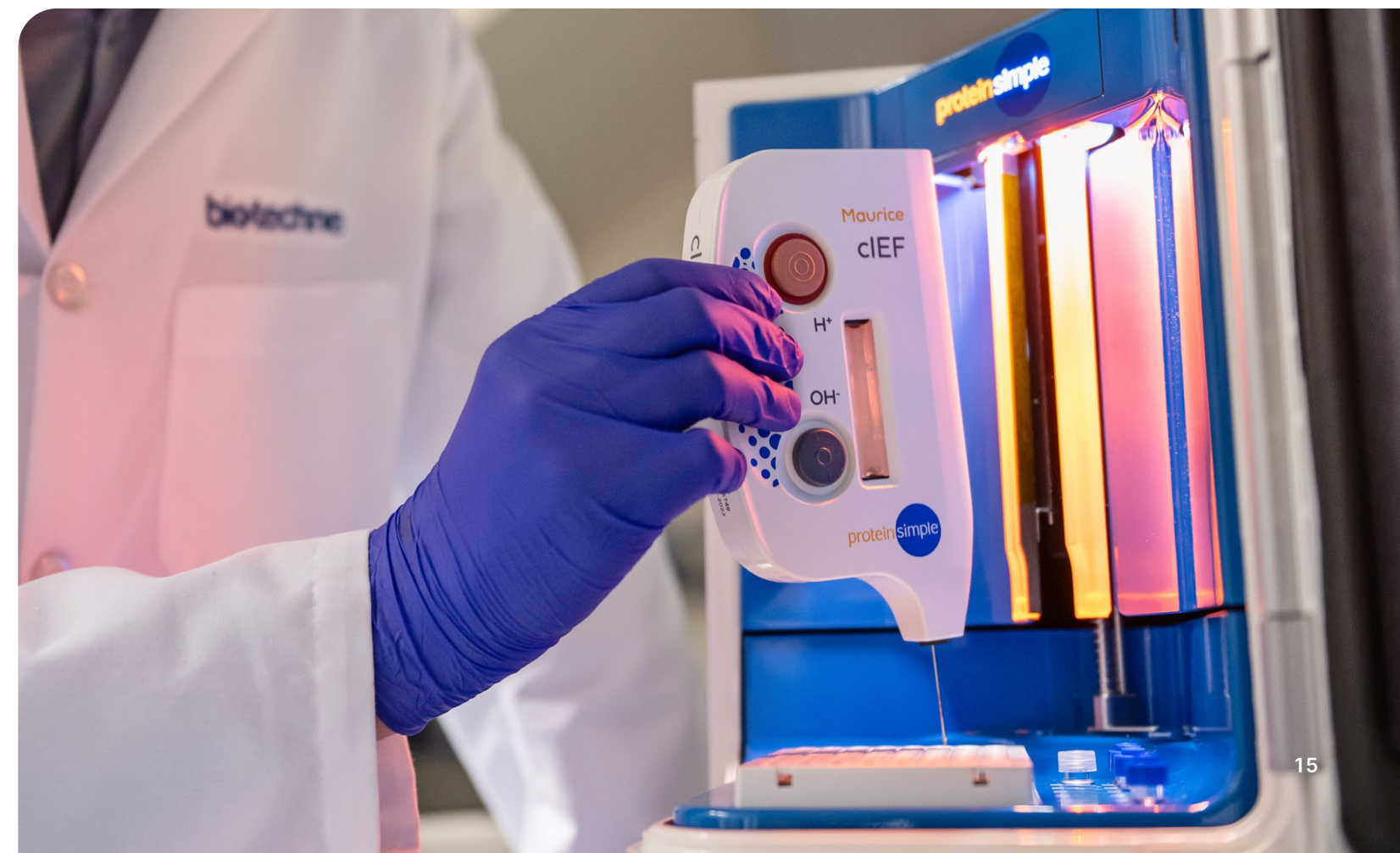


Figure 08. Apparent pI comparison of 8 different AAV serotypes with Maurice icIEF using native fluorescence detection. Distinct charge profiles are obtained for each serotype, demonstrating how Maurice can be used to determine AAV identity.





## Obtain High Throughput Protein Size Separation with MauriceFlex, Maurice, & Maurice S. Systems



### Advantages:

- ✓ Analyze a variety of molecules including mAbs, AAVs, IgMs, Lentiviruses and more
- ✓ Obtain high resolution, high throughput protein size separation
- ✓ Get data in as little as 5.5 minutes
- ✓ Maintain regulatory compliance with industry-approved software
- ✓ Decrease your footprint by doing away with acrylamide
- ✓ Use across stages: discovery to QC

## SDS-PAGE vs. CE-SDS

Improve resolution, save time, & go green in size analysis.



Workflow Totals (12 samples):

	Duration	Waste
SDS-PAGE	3-7 hours	Gels + 750 mL
CE-SDS	1.5-2 hours	8-10 mL*

\*Same total amount of waste generated for 1-12 samples

Workflow (per sample):

Phase	Sample Prep	Gel Setup	Load Sample	Run Gel	Staining and Destaining	Data Analysis
<b>SDS-PAGE</b>	20 min	15 min	10 min	50 min	30 min - 4 hr	1 hr
Duration						
Waste			1-2 Acrylamide Gels	30-50 mL	20-50 mL	

Phase	Sample Prep	Instrument Setup	Analyze Samples	Data Analysis
<b>CE-SDS</b>	20 min	10 min	65 min	5-30 min
Duration				
Waste		3 mL	5 mL	



FIGURE // 09

CE-SDS Analysis of NIST mAb

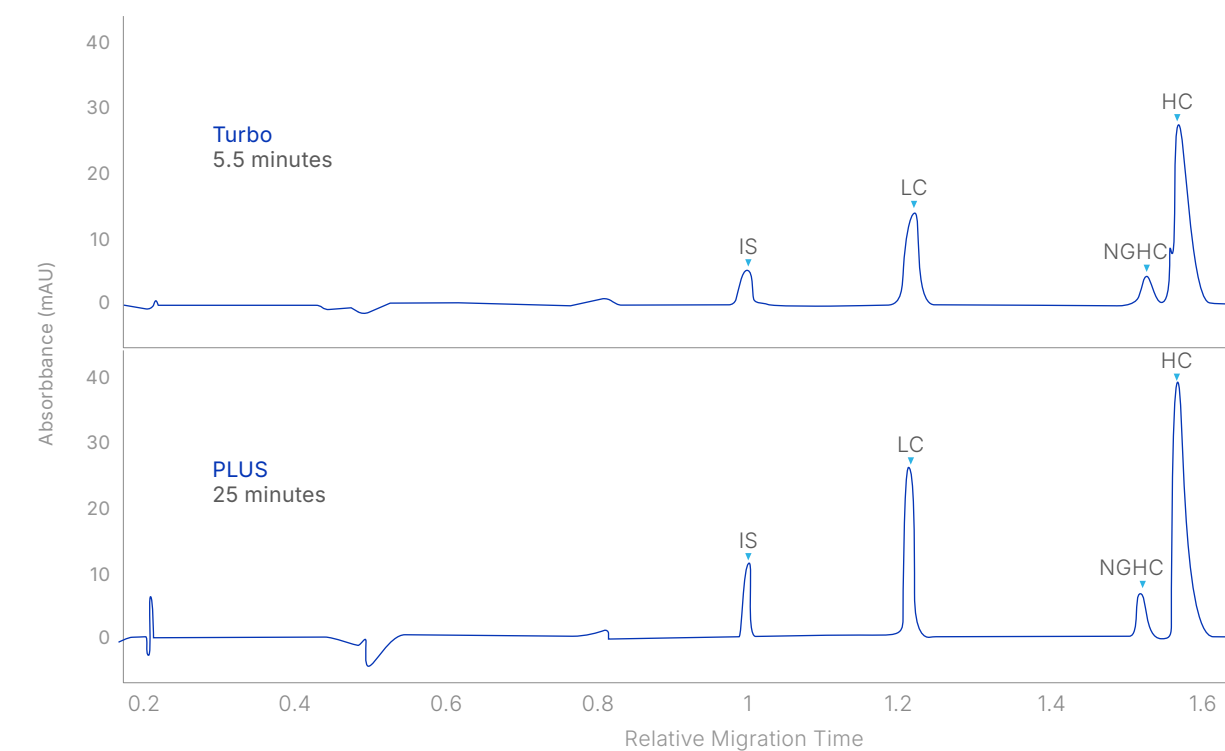


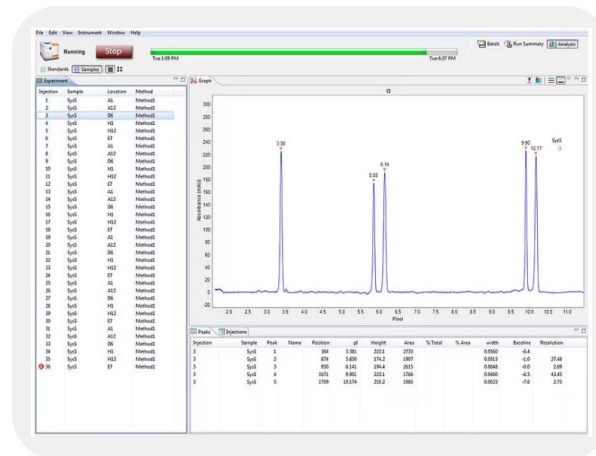
Figure 09. A comparison of size separation of NIST mAb obtained from the Maurice Turbo CE-SDS cartridge and the CE-SDS PLUS cartridge, run on the Maurice system. Both methods are comparable.

# Software for Your Compliance Needs



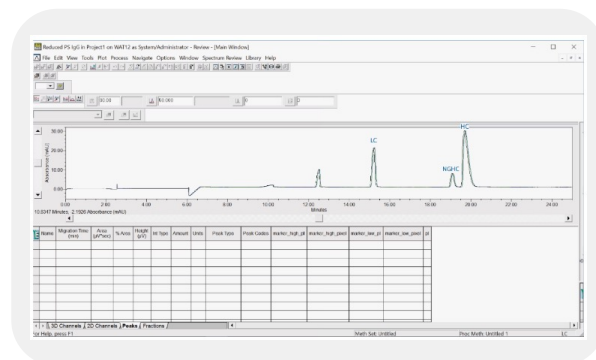
## Compass for iCE Software

Our Compass for iCE software gives you an easy-to-use, easy-to-learn, 21 CFR Part 11 compliant interface to control your Maurice instrument.



## Waters™ Empower® Chromatography Data System

The Maurice Empower® Control Kit lets Maurice be controlled directly through Waters™ Empower® 3 CDS. The kit includes driver software and an instrument control license. The latest version of the Empower ICS v1.2 driver now includes support for MauriceFlex (cIEF, CE-SDS PLUS, and Turbo CE-SDS assays only).



## Thermo Scientific™ Chromleon® Chromatography Data System

Now you can control your Maurice system directly with Thermo Scientific™ Chromleon® CDS. The Maurice Chromleon Driver Software also includes the ability to perform pI recalibration.

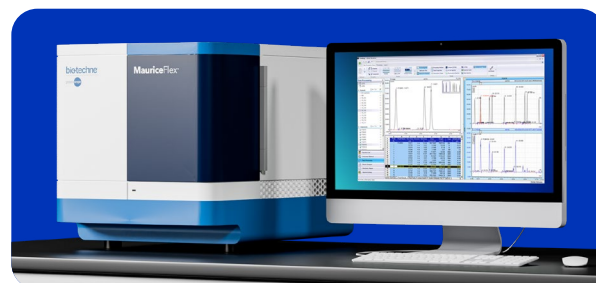


TABLE // 03  
Software & Instrument Compatibility

	MauriceFlex	Maurice/ Maurice OBM	Maurice C./Maurice C. OBM	Maurice S.
Compass for iCE	✓	✓	✓	✓
Empower	✓ *	✓	✓	✓
Chromleon ***		✓	✓	✓

\* Works for the cIEF, icIEF 400, CE-SDS PLUS, and Turbo CE-SDS cartridges only. Empower is compatible with all cartridges except the MauriceFlex Fractionation Cartridge

\*\* OBM instrument is supported, but the OBM feature is not.

\*\*\* Works for the cIEF, CE-SDS PLUS, and Turbo CE-SDS cartridges only. Chromleon is compatible with all cartridges except the MauriceFlex Fractionation Cartridge.

## Additional Resources



**Maurice options makes it simple to integrate into your lab and 21 CFR Part 11 compliant workflows**

Scan the QR Code or visit online:  
[bio-techne.com/instruments/ice/software-for-maurice](https://bio-techne.com/instruments/ice/software-for-maurice)



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[bio-techne.com/services/certified-service-provider-program](https://bio-techne.com/services/certified-service-provider-program)

TABLE // 04

## Cartridge Specifications

Description	cIEF	iCIEF 400
Minimum Sample Volume	50 µL	50 µL
Sample Delivery	Vacuum	Vacuum
Typical Separation Time*	6-10 min (molecule dependent)	6-10 min (molecule dependent)
Detection Capacity	UV Absorbance at 280 nm Fluorescence: Ex 280 nm, Em 320–450 nm	UV Absorbance at 280 nm Fluorescence: Ex 280 nm, Em 320–450 nm
Typical Voltage	Pre-focusing: 1,500 V; focusing: 3,000 V	Pre-focusing: 1,500 V; focusing: 3,000 V
Sample Injections per Cartridge	100 guaranteed, 200 maximum (max 20 batches)	100 guaranteed, 400 maximum (max 40 batches)
Maximum Sample Injections per Batch	100	100
pI/Size Range	2.85–10.45	2.85–10.45
pI/Sizing CV	1%	1%
CV for Peaks >10% Composition	≤5% (Intra-batch), ≤6% (Inter-batch)	≤5% (Intra-batch), ≤6% (Inter-batch)
Relative Migration Time CV	N/A	N/A
pI/Sizing Resolution	0.05 pI units (for wide range 3–10 ampholyte)	0.05 pI units (for wide range 3–10 ampholyte)
Dynamic Range	3 logs	3 logs
Linearity	>0.995	>0.995
Sensitivity (LOD)	0.7 µg/mL (Native fluorescence) 3.0 µg/mL (Absorbance) (Values based on a monoclonal antibody)	0.7 µg/mL (Native fluorescence) 3.0 µg/mL (Absorbance) (Values based on a monoclonal antibody)
Sample Tray Options	96-well plates or 48 vials	96-well plates or 48 vials
Power	100 V–240 V (AC), 50/60 Hz, 500 W	100 V–240 V (AC), 50/60 Hz, 500 W
Voltage Range	0–6,500 V	0–6,500 V
Temperature Control Range	4–25 °C	4–25 °C
Dimensions	44 cm H x 42 cm W x 61 cm D	44 cm H x 42 cm W x 61 cm D
Weight	46 kg (100 lb)	46 kg (100 lb)

TABLE // 04 CONTINUED

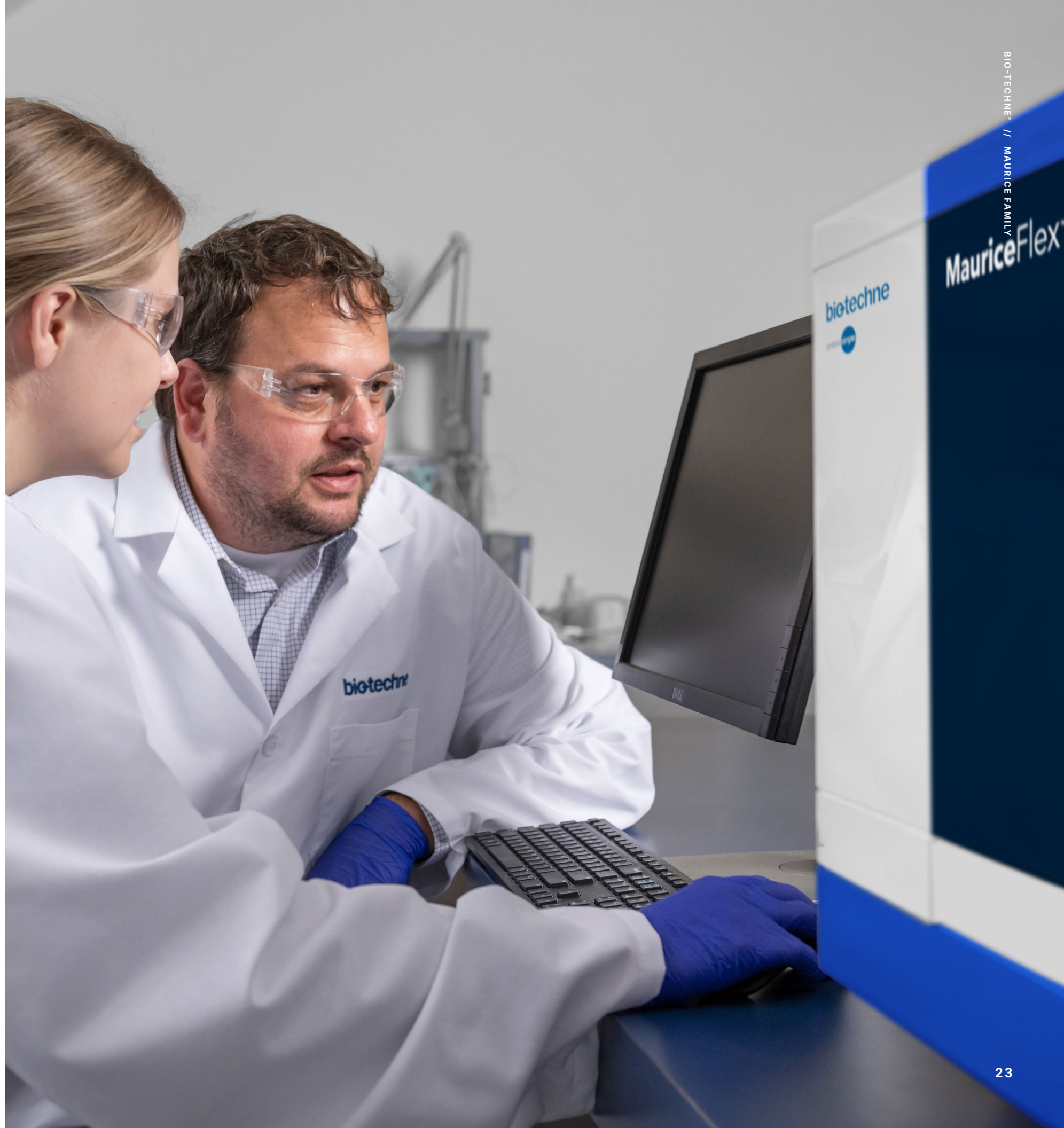
## Cartridge Specifications

Description	CE-SDS PLUS	Turbo CE-SDS
Minimum Sample Volume	50 µL	100 µL
Sample Delivery	Electrokinetic	Electrokinetic
Typical Separation Time	Reduced IgG: 25 min Non-reduced IgG: 35 min	Reduced IgG: 5.5 min Non-reduced IgG: 8 min
Detection Capacity	UV Absorbance at 220 nm	UV Absorbance at 220 nm
Typical Voltage	Separation: 5,750 V	Separation: 4,200 V
Sample Injections per Cartridge	100 guaranteed, 500 maximum (max 25 batches)	100 guaranteed (max 25 batches)
Maximum Sample Injections per Batch	48	96
pI/Size Range	10–270 kDa	10–270 kDa
pI/Sizing CV	≤2%	≤2%
CV for Peaks >10% Composition	N/A	N/A
Relative Migration Time CV	<1% for reduced IgG	<5%
pI/Sizing Resolution	≥1.5 for NGHC/HC IgG Standard	≥1.0 for NGHC/HC IgG Standard
Dynamic Range	3 logs	3 logs
Linearity	>0.995	>0.995
Sensitivity (LOD)	0.3 µg/mL (Value based on Internal Standard)	0.6 µg/mL (Value based on Internal Standard)
Sample Tray Options	96-well plates or 48 vials	96-well plates or 48 vials
Power	100 V–240 V (AC), 50/60 Hz, 500 W	100 V–240 V (AC), 50/60 Hz, 500 W
Voltage Range	0–6,500 V	0–6,500 V
Temperature Control Range	4–25 °C	4–25 °C
Dimensions	44 cm H x 42 cm W x 61 cm D	44 cm H x 42 cm W x 61 cm D
Weight	46 kg (100 lb)	46 kg (100 lb)

\*Run time can be further shortened with the new SupersonicIEF method by McElroy & Heger published in Electrophoresis. [Read the full paper here for faster iCIEF](#)

TABLE // 04 CONTINUED  
Cartridge Specifications

Description	cIEF Fractionation
Minimum Sample Volume	100 µL
Sample Delivery	Vacuum
Typical Separation Time	40-50 min (molecule dependent)
Detection Capacity	Fluorescence: Ex 280 nm, Em 320-450 nm
Typical Voltage	Pre-focusing: 500 V and 1000 V; Focusing: 1500 V
Maximum Batches per Cartridge	Up to 15 batches, up to 84 fractions per batch
Maximum Sample Injections per Batch	1 (fractionation) 4 (cIEF)
pI/Size Range	3-10
pI/Sizing CV	1%
CV for Peaks >10% Composition	≤10% (Inter-batch)
Relative Migration Time CV	N/A
pI/Sizing Resolution	N/A
Dynamic Range	3 logs
Linearity	N/A
Sensitivity (LOD)	N/A
Sample Tray Options	96 well plates only
Power	100 V-240 V (AC), 50/60 Hz, 500 W
Voltage Range	0-6,500 V
Temperature Control Range	10-25 °C
Dimensions	44 cm H x 42 cm W x 61 cm D
Weight	46 kg (100 lb)





#### Contact Us

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**Europe // Middle East // Africa** TEL +44 (0)1235 529449

**China** [info.cn@bio-techne.com](mailto:info.cn@bio-techne.com), TEL 400.821.3475

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