

## PA 800 *plus* Catalog

Built on 20 years of innovation and leadership in the field of capillary electrophoresis, Beckman Coulter's PA 800 *plus* provides solutions for protein purity analysis, charge heterogeneity assessment, glycan characterization and small molecules. Systems, software, assay kits, capillaries, reagents, and system supplies for the PA 800 *plus* can be found here.

### Systems/Software

Part Number		Description
A66528	PA 800 <i>plus</i> Pharmaceutical Analysis System	 <p>The PA 800 <i>plus</i> Pharmaceutical Analysis System provides a comprehensive, automated, and quantitative solution for the characterization and analysis of proteins. Innovative system design ensures dependable operation and durability. The PA 800 <i>plus</i> application menu includes SDS-gel molecular weight analysis, charge heterogeneity analysis utilizing advanced capillary isoelectric focusing technology, and carbohydrate profiling for the assessment of glyco-protein microheterogeneity. Modular design provides for the simple interchange of detectors.</p> <p><b>The PA 800 <i>plus</i> System includes:</b></p> <ul style="list-style-type: none"> <li>▪ High-resolution separation module</li> <li>▪ High-sensitivity UV, PDA, and solid-state laser-induced fluorescence detection</li> <li>▪ Sample storage temperature control</li> <li>▪ High-speed system controller with 32 Karat™ Version 9.0 and PA 800 <i>plus</i> software</li> <li>▪ Validated applications for SDS-MW, IgG, cIEF, and glycan analysis</li> <li>▪ Starter kit containing necessary hardware supplies to operate the system</li> <li>▪ Installation Qualification and Operation Qualification of the system</li> <li>▪ System application installation and training</li> </ul>
A66527	PA 800S <i>plus</i> Pharmaceutical Analysis System	 <p>The PA 800 <i>plus</i> Pharmaceutical Analysis system, the PA 800S <i>plus</i> provides an automated and quantitative solution for the analysis of protein purity and molecular weight utilizing SDS-gel capillary electrophoresis. The innovative system design ensures dependable operation and durability. Additional detectors are available for future upgrades.</p> <p><b>The PA 800S <i>plus</i> System includes:</b></p> <ul style="list-style-type: none"> <li>▪ High-resolution separation module</li> <li>▪ High-sensitivity PDA detection</li> <li>▪ Sample storage temperature control</li> <li>▪ High-speed system controller with 32 Karat™ Version 9.0 and PA 800 <i>plus</i> software</li> <li>▪ Validated applications for SDS-MW and IgG Purity and Heterogeneity</li> <li>▪ Starter kit containing necessary hardware supplies to operate the system</li> <li>▪ Installation Qualification and Operation Qualification of the system</li> <li>▪ System application installation and training</li> </ul>
A79486	PA 800 <i>plus</i> Software Validation Pack	<p>This document provides information/details on the 32 Karat™ Ver. 9.0 Software product history, technical description, development and support policy.</p> <p><a href="#">Please click here to download this product.</a></p>
144867	Installation Qualification, IQ	 <p>Installation Qualification involves system analysis to confirm the instrument, its modules, and its accessories have been supplied as ordered and that the instrument is properly installed at the specified location. IQ documentation provides a record that an instrument is installed per design specifications. An IQ is inclusive with instrument purchase and installation.</p>

## Assay Kits

### Part Number

### Description

338437 Test Kit, Capillary Performance



#### Includes:

- Capillary Regenerator Solution A (Part Number 338424)
- Performance Test Mix B (Part Number 501333)
- Capillary Performance Run Buffer A (Part Number 338426)
- Instructions

390953 SDS-MW Analysis Kit



The SDS-MW Analysis Kit is designed for the sizing of protein-SDS complexes separated in a replaceable gel matrix. The gel is formulated to provide an effective protein sieving range of approximately 10 kDa to 225 kDa. Within this size range, the logarithm of protein molecular mass is linear with its reciprocal electrophoretic mobility, allowing the molecular weight of an unknown protein to be estimated from a standard curve of known protein sizes. This chemistry can also be used to quantify protein concentration and to determine the purity of a protein product.

#### Includes:

- Separation Capillary, 57 cm x 50  $\mu$ m ID bare fused-silica, qty 2
- SDS Gel Separation Buffer, 140 mL
- SDS Sample Buffer, 100 mM Tris-HCl, pH 9.0/1% SDS, 50 mL
- SDS Protein Sizing Standard (10 to 225 kDa) 16 mg/mL, 100  $\mu$ L
- Internal Standard, 10 kDa protein, 5 mg/mL, 0.4 mL
- Acidic Wash Solution, 0.1 N HCl, 100 mL
- Basic Wash Solution, 0.1 N NaOH, 100 mL
- SDS-Gel MW Analysis Guide
- SDS-MW Analysis Kit insert

477445 Protein Methods Development Kit



The Protein Methods Development Chemistries contain coated capillaries, buffers, standards, and markers to allow you to optimize a separation method for the analysis of a broad spectrum of proteins by their mass/charge characteristics. The use of a Neutral separation capillary minimizes the adsorption of proteins to the capillary surface and protects against hydrophobic interactions with the surface, improving the overall efficiency and resolution of the proteins being separated. For proteins that require minimal Electroosmotic Flow (EOF) and a neutral capillary surface.

#### Includes:

- Neutral Capillary, 50  $\mu$ m, qty 1 (Part Number 477441)
- Orange G Reference Marker, 0.1% aqueous solution, 1 mL (Part Number 241524)
- Histamine Reference Marker, 1% aqueous solution, 1 mL (Part Number 477446)
- Citrate Buffer, pH 3, 50 mM, 100 mL (Part Number 477442)
- Citrate/MES Buffer, pH 6, 50 mM, 100 mL (Part Number 477443)
- Tricine Buffer, pH 8, 50 mM, 100 mL (Part Number 477444)
- Protein Test Mix, qty 1 (Part Number 477436): Lysozyme, 1 mg, Ribonuclease A, 1 mg, Cytochrome C, 3 mg
- Methods Development Guide

477600 Carbohydrate Labeling and Analysis Kit




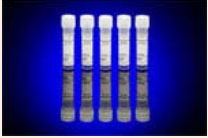
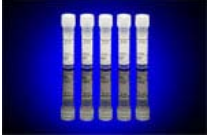


The PA 800 *plus* Carbohydrate Labeling and Analysis Chemistry contains the reagents and separation capillary required to label, separate and quantify oligosaccharides and monosaccharides released from glycoproteins. Following release (enzymatic or chemical) from proteins, glycans are labeled with a fluorophore, APTS, at the reducing terminus by reductive amination. The stoichiometry of labeling is such that only one APTS molecule is attached to each molecule of oligosaccharide. These highly charged and fluorescent oligosaccharides are easily resolved in an electric field and detected using laser-induced fluorescence.

#### Includes:

- Carbohydrate Separation Buffer, 56 mL (Part Number 477623)
- N-CHO Coated Capillary, qty 2 (Part Number 477601)
- Labeling Reagents, qty 1
  - Labeling Dye (APTS), 4 x 5 mg
  - Labeling Dye Solvent, 1 mL (Part Number 501309)
  - Glucose Ladder Standard, 50 mg
  - Quantitation/Mobility Marker (Maltose), 0.18 mg
- APTS-M (APTS extra purified for monosaccharide labeling)
- Carbohydrate Labeling and Analysis Guide, qty 1
- Kit Insert












## Assay Kits (continued)

Part Number			Description
501333	Performance Test Mix B		Performance Test Mix. Component of Capillary Performance Test Kit.
A10663	IgG Purity and Heterogeneity Assay		<p><b>Includes IgG Control Standard 1-pack and all chemistries.</b></p> <p>The IgG Purity and Heterogeneity Assay has been developed for researchers employed in industrial biotechnology, who are developing and manufacturing IgG reagents for research, diagnostic and therapeutic use. This assay has been specified to assess the purity and heterogeneity of IgG reagents in both a reduced and non-reduced state. The methodology involves heat denaturing a specified concentration of IgG (both reduced and non-reduced) in the presence of SDS, and separating these proteins by size using high-resolution capillary gel electrophoresis technology. This assay will detect impurities as low as 0.1% and includes an IgG control with a designated quantity of non-glycosylated heavy chain to test both the resolution and quantitation suitability of the assay prior to running unknowns.</p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>▪ Separation Capillary, 57 cm x 50 µm ID bare fused-silica (qty 2)</li> <li>▪ SDS Gel Separation Buffer (proprietary formulation) (140 mL)</li> <li>▪ SDS Sample Buffer, 100 mM Tris-HCl, pH 9.0/1% SDS (50 mL)</li> <li>▪ IgG Control Standard, 1 mg/mL in SDS sample buffer (1 mL)</li> <li>▪ Internal Standard, 10 kDa protein, 5 mg/mL (0.4 mL)</li> <li>▪ Acidic Wash Solution, 0.1 N HCl (100 mL)</li> <li>▪ Basic Wash Solution, 0.1 N NaOH (100 mL)</li> <li>▪ IgG Purity and Heterogeneity Assay Application Guide (qty 1)</li> <li>▪ Kit Insert</li> </ul>
A30341	SDS-MW Gel Buffer Multi Pack		SDS-MW Gel Buffer is a 4-pack of the SDS-MW gel used in the SDS-MW Kit (Part Number 390953) and the IgG Purity and Heterogeneity Kit Assay (Part Number A10663). Each multi pack contains 4 individual bottles of buffer.
A58481	pI Marker Kit		<p>The pI Marker Kit contains five synthetic peptide markers: 4.1, 5.5, 7.0, 9.5, 10.0, which can be used to generate a standard curve for accurate assessment of pI's.</p> <ul style="list-style-type: none"> <li>▪ Each vial contains 240 microliters of peptide</li> <li>▪ The kit volume enables 100 cIEF runs</li> <li>▪ Advanced cIEF Starter Kit is also available (Part Number A80976)</li> <li>▪ cIEF Peptide pI Marker Kit Insert</li> </ul>
A80976	Advanced cIEF Starter Kit		<p>The Advanced cIEF Starter Kit in combination with the Advanced cIEF methods, and the PA 800 <i>plus</i> system result in cIEF separation with the highest level of precision for pI determination and isoform quantitation of your sample.</p> <p>NOTE: Additional reagents from other vendors are required for this application.</p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>▪ pI Marker Kit (Part Number A58481)</li> <li>▪ Neutral capillary (Part Number 477441)</li> <li>▪ cIEF gel (Part Number 477497)</li> <li>▪ Capillary Isoelectric Focusing (cIEF) Analysis, Application Guide</li> <li>▪ cIEF Peptide pI Marker Kit Insert</li> </ul>


## Capillaries

Part Number		Description
338451	Bare Fused-Silica Capillary - 50 µm ID, 375 µm OD, 67 cm	<p>Capillary for use in PA 800 series and P/ACE™ MDQ Capillary Cartridges for separation and analysis of a variety of samples, including pharmaceuticals, industrial chemicals, chiral drugs, nucleic acids, amino acids, proteins, and peptides. Capillaries must be trimmed to optimize speed/resolution.</p> <p>Bare fused-silica capillary with laser burned window - 50 µm ID, 375 µm OD, 67 cm total length/50 cm effective length (qty 3).</p>











## Capillaries (continued)

Part Number			Description
338454	Bare Fused-Silica Capillary - 75 µm ID, 375 µm OD, 67cm		Capillary for use in PA 800 series and P/ACE™ MDQ Capillary Cartridges for separation and analysis of a variety of samples, including pharmaceuticals, industrial chemicals, chiral drugs, nucleic acids, amino acids, proteins, and peptides. Capillaries must be trimmed to optimize speed/resolution. Bare fused-silica capillary with laser burned window - 75 µm ID, 375 µm OD, 67cm total length/50 cm effective length (qty 3).
338472	Bare Fused-Silica Capillary - 50 µm ID, 375 µm OD, 5 m length		Bare fused-silica capillary 50 micron internal diameter, 375 µm OD, 5 meter length.
338473	Bare Fused-Silica Capillary - 75 µm ID, 375 µm OD, 5 m length		Bare fused-silica capillary 75 micron internal diameter, 375 µm OD, 5 meter length.
338474	Bare Fused-Silica Capillary - 100 µm ID, 375 µm OD, 5 m length		Bare fused-silica capillary 100 micron internal diameter, 375 µm OD, 5 meter length.
338475	Bare Fused-Silica Capillary - 20 µm ID, 375 µm OD, 37 cm		Capillary for use in PA 800 series and P/ACE™ MDQ Capillary Cartridges for separation and analysis of a variety of samples, including pharmaceuticals, industrial chemicals, chiral drugs, nucleic acids, amino acids, proteins, and peptides. Capillaries must be trimmed to optimize speed/resolution. Bare fused-silica capillary with laser burned window - 20 µm ID, 375 µm OD, 37 cm total length/20 cm effective length (qty 3).
360801	CE-MS Capillary - 50 µm ID, 111 cm total length (qty 3)		111 cm capillary for use when interfacing Beckman Coulter's CE systems with mass spectrometers.
149053	CE-MS Capillary - 70 µm ID, 115 cm total length, 100 cm to the window (qty 3)		115 cm capillary for use when interfacing Beckman Coulter's CE systems with mass spectrometers.
360800	CE-MS Capillary - 75 µm ID, 111 cm total length (qty 3)		111 cm capillary for use when interfacing Beckman Coulter's CE systems with mass spectrometers.
477431	eCAP™ Amine Capillary, 50 µm ID, 65 cm Total Length (qty 1)		Capillary for use in PA 800 series and P/ACE™ MDQ Capillary Cartridges for separation and analysis of a variety of samples, including pharmaceuticals, industrial chemicals, chiral drugs, nucleic acids, amino acids, proteins, and peptides. Capillaries must be trimmed to optimize speed/resolution. Amine capillary with laser burned window - eCAP™, 50 µm ID, 65 cm Total Length (qty 1).
477441	eCAP™ Neutral Capillary, 50 µm ID, 67 cm Total Length (qty 1)		Capillary for use in PA 800 series and P/ACE MDQ Capillary Cartridges for separation and analysis of a variety of samples, including pharmaceuticals, industrial chemicals, amino acids, proteins and peptides. This capillary is also used with Advanced cIEF Starter Kit (Part number A80976). Capillaries must be trimmed to optimize speed/resolution. Neutral Coated Capillary with laser burned window - 50 µm ID x 67 cm total length.
477477	eCAP™ DNA Capillary, 100 µm ID, 65 cm Total Length (qty 1)		Capillary for use in PA 800 series and P/ACE™ MDQ Capillary Cartridges for separation and analysis of nucleic acids. Capillaries must be trimmed to optimize speed/resolution. Capillary with laser burned window - 100 µm ID, 65 cm Total Length (qty 1).


## Capillaries *(continued)*

Part Number	Description		Description
477601	N-CHO Capillary, for N-Linked Oligosaccharide Profiling		Capillary for use in PA 800 series and P/ACE MDQ Capillary Cartridges. This capillary is used with the Carbohydrate Labeling and Analysis Kit (Part number 477600). Capillaries must be trimmed to optimize speed/resolution. N-CHO (PVA) Capillary with laser burned window - 50 µm ID x 65 cm total length.

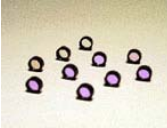
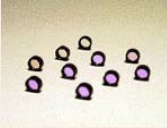
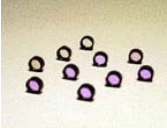
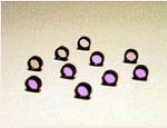
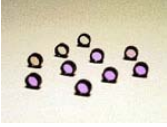
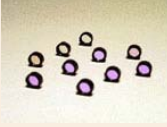
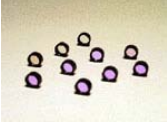
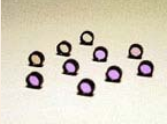
## Capillary Cartridges and Supplies

Part Number	Description		Description
144645	Cartridge Rebuild Kit		<b>Includes:</b> <ul style="list-style-type: none"> <li>▪ Cleaving stone</li> <li>▪ Capillary length tool</li> <li>▪ O-ring Installation tool</li> <li>▪ O-ring Aperture (qty 10)</li> <li>▪ Tweezers (plastic)</li> <li>▪ Instructions for Rebuild kit</li> </ul>
144660	OpCal Cartridge		Blank cartridge used for calibration of the PDA detector.
144689	Cartridge Tubing Kit		Consists of 20-, 30-, 40-, and 50 cm lengths of cartridge coolant tubing and all connectors.
144711	Aperture, 100 x 800 µm (pkg of 3)		UV and PDA Aperture, 100 x 800 µm (kit of 3)
144712	Aperture, 100 x 200 µm (pkg of 3)		UV and PDA Aperture, 100 x 200 µm (kit of 3)
144717	Cartridge Coolant Tube Kit, 100 cm		<b>Includes:</b> <ul style="list-style-type: none"> <li>▪ Cartridge coolant tubing (100 cm total length)</li> <li>▪ Tubing-molded nuts (qty 2)</li> <li>▪ Ferrule (qty 2)</li> <li>▪ O-ring (qty 2)</li> </ul>
144738	Cartridge Assembly Kit, Blank		<b>Includes:</b> <ul style="list-style-type: none"> <li>▪ Cartridge body</li> <li>▪ 100 x 800 µm aperture</li> <li>▪ 100 x 200 µm aperture</li> <li>▪ Tubing kit</li> <li>▪ Nuts</li> <li>▪ Ferrules</li> <li>▪ O-rings</li> </ul>
144829	External Detector Adapter Cartridge and Adapter Kit		External Detector Adapter cartridge with all tubing, clips, seals, etc., and the adapter couplings. Cartridge is designed to bypass onboard CE detectors.
144834	Tubing Kit, External Detector Adapter		<b>Includes:</b> <ul style="list-style-type: none"> <li>▪ Precut External Detector Adapter tubing</li> <li>▪ Nuts</li> <li>▪ O-rings</li> <li>▪ Ferrules</li> </ul>
144866	Double Seals with Clips (pkg of 4)		Replacement red cartridge seals for sealing around capillary ends. Suitable for 150-375 µm OD capillaries and all cartridge types.
144873	Single Seals with Clips (pkg of 4)		Seals around optics window of capillary cartridge.

## Capillary Cartridges and Supplies *(continued)*

Part Number	Description		Description
149044	Blank Cartridge CE/MS Kit		Organic solvent resistant capillary cartridges for use with the PA 800 series and P/ACE MDQ instruments.
721125	LIF Cartridge Aperture Plug Assembly		For use with LIF Detection System. Requires probe guide (Part Number 721126). This part is included in LIF Upgrade Kits.
721126	LIF Cartridge Probe Guide		For use with LIF Detection System Requires Aperture Plug Assembly (Part Number 721125). This part is included in the LIF Upgrade Kit.
970297	O-Ring, Aperture, Cartridge (qty 1)		Cartridge Aperture O-Rings (qty 1).

## Filters

Part Number	Description		Description
144430	Filter, 200 nm		A replacement filter for use with UV detection.
144431	Filter, 210 nm		A custom application filter for use with UV detection.
144437	Filter, 214 nm		A replacement filter for use with UV detection.
144432	Filter, 220 nm		A custom application filter for use with UV detection.
144433	Filter, 230 nm		A custom application filter for use with UV detection.
144438	Filter, 254 nm		A replacement filter for use with UV detection.
144434	Filter, 260 nm		A custom application filter for use with UV detection.
144439	Filter, 280 nm		A replacement filter for use with UV detection.


## Filters (continued)

Part Number	Description		Description
144435	Filter, 300 nm		A custom application filter for use with UV detection.
144436	Filter, 340 nm		A custom application filter for use with UV detection.
144940	Filter, Emission Band Pass, 520 nm		A replacement filter for use with Laser Induced Fluorescence (LIF) detection. Used on P/ACE MDQ and PA 800 series systems equipped with LIF.
144941	Filter, Notch, 488 nm		A replacement filter for use with Laser Induced Fluorescence (LIF) detection. Used on P/ACE MDQ and PA 800 series systems equipped with LIF.
144942	Filter, Emission Band Pass, 655 nm		A replacement filter for use with Laser Induced Fluorescence (LIF) detection. Used on P/ACE MDQ and PA 800 series systems equipped with LIF.
149068	Filter, Emission Band Pass, 560 nm		A replacement filter for use with Laser Induced Fluorescence (LIF) detection. Used on P/ACE MDQ and PA 800 series systems equipped with LIF.
725412	Filter, Emission Band Pass, LIF 675 nm		A replacement filter for use with Laser Induced Fluorescence (LIF) detection. Used on P/ACE MDQ and PA 800 series systems equipped with LIF.

## Vials and Caps

Part Number	Description		Description
144709	Vial, Micro, 200 $\mu$ L (pkg of 100)		Micro Vials (qty 100). Used as vial inserts for sample introduction into the P/ACE MDQ and PA 800 series systems.
970668	Vial, 0.5 mL (qty 50)		Vials, 0.5 mL (qty 50). Used in P/ACE MDQ and PA 800 series systems.
A62250	Universal Vial Caps (pkg of 100)		Universal caps are used in combination with universal vials (Part Number A62251). Universal caps can be used with vials accommodating either run buffer or sample, streamlining the number of different components necessary to perform an assay. Universal vial caps are manufactured for use only with PA 800 <i>Enhanced</i> or PA 800 <i>plus</i> instruments and should not be reused.
A62251	Universal Vials (pkg of 100)		Universal vials are used in combination with universal caps (Part Number A62250). Vials accommodate either run buffer or sample and can also accommodate micro-vials. Vials are precision manufactured from polymethylpentene and have been tested for chemical compatibility with commonly used CE reagents. Universal vials are manufactured for use only with PA 800 <i>Enhanced</i> or PA 800 <i>plus</i> instruments and should not be reused.

## System Supplies

Part Number	Description		Description
144647	Coolant Fill Kit		<b>Includes:</b> <ul style="list-style-type: none"> <li>▪ Syringe</li> <li>▪ Coolant fill tool</li> <li>▪ Connecting tubing</li> </ul>
144667	Lamp Assembly, Deuterium, Replacement (qty 1)		Deuterium lamp replacement for the P/ACE MDQ and PA 800 series systems.
144865	O-Ring, Buffer Reservoir, Replacement (qty 4)		Buffer reservoir replacement O-rings.
359976	Coolant, 450 mL (qty 1)		Capillary Coolant, 450 mL (qty 1) Recommended for use on the P/ACE MDQ and PA 800 series systems.
A47974	Vial Cap Opener		The vial cap opener allows precision interaction and alignment between vials/caps and the separation interface. This device also provides protection for both capillary and electrode. Vial cap openers are for use only with PA 800 <i>Enhanced</i> or PA 800 <i>plus</i> instruments.
A58254	Vial Tray, 36 Vial Capacity		Buffer vial trays accommodate up to 36 universal vials (Part Number A62251). Trays feature a locking mechanism that fastens the universal vials tightly in place. This vial tray is designed for use only with PA 800 <i>Enhanced</i> or PA 800 <i>plus</i> instruments.
A58255	Vial Tray, 48 Vial Capacity		Sample vial trays accommodate up to 48 universal vials (Part Number A62251). Trays feature a locking mechanism that fastens the universal vials tightly in place. This vial tray is designed for use only with PA 800 <i>Enhanced</i> or PA 800 <i>plus</i> instruments.
A58814	Sample Vial Tray Holder		The vial holder tray is designed to accommodate the 48 capacity vial tray (Part Number A58255) and can be stored in the instrument sample cooler. This vial tray is designed for use only with PA 800 <i>Enhanced</i> or PA 800 <i>plus</i> instruments.
A59525	Electrode Replacement Tool		This tool is designed to facilitate removal and replacement of PA 800 <i>Enhanced</i> and PA 800 <i>plus</i> electrodes (Part Number A47775).






## Reagents

Part Number	Description		Description
241524	eCAP™ Orange G Reference Marker		Reference marker for reversed polarity applications (UV/DAD).
338424	Regenerator Solution A, Capillary, 0.1 N sodium hydroxide (50 mL)		Capillary Regenerator Solution A 0.1 N sodium hydroxide (qty 50 mL)
338426	Capillary Performance Run Buffer A, 100 mM Sodium Borate, pH 8.3 (50 mL)		Component of Capillary Performance Test Kit (Part Number 338437).

## Reagents (continued)

Part Number			Description
338437	Test Kit, Capillary Performance		<b>Includes:</b> <ul style="list-style-type: none"> <li>▪ Capillary Regenerator Solution A (Part Number 338424)</li> <li>▪ Performance Test Mix B (Part Number 501333)</li> <li>▪ Capillary Performance Run Buffer A (Part Number 338426)</li> <li>▪ Instructions</li> </ul>
359976	Coolant, 450 mL (qty 1)		Capillary Coolant, 450 mL (qty 1) Recommended for use on the P/ACE MDQ and PA 800 series systems.
390953	SDS-MW Analysis Kit		The SDS-MW Analysis Kit is designed for the sizing of protein-SDS complexes separated in a replaceable gel matrix. The gel is formulated to provide an effective protein sieving range of approximately 10 kDa to 225 kDa. Within this size range, the logarithm of protein molecular mass is linear with its reciprocal electrophoretic mobility, allowing the molecular weight of an unknown protein to be estimated from a standard curve of known protein sizes. This chemistry can also be used to quantify protein concentration and to determine the purity of a protein product. <b>Includes:</b> <ul style="list-style-type: none"> <li>▪ Separation Capillary, 57 cm x 50 µm ID bare fused-silica, qty 2</li> <li>▪ SDS Gel Separation Buffer, 140 mL</li> <li>▪ SDS Sample Buffer, 100 mM Tris-HCl, pH 9.0/1% SDS, 50 mL</li> <li>▪ SDS Protein Sizing Standard (10 to 225 kDa) 16 mg/mL, 100 µL</li> <li>▪ Internal Standard, 10 kDa protein, 5 mg/mL, 0.4 mL</li> <li>▪ Acidic Wash Solution, 0.1 N HCl, 100 mL</li> <li>▪ Basic Wash Solution, 0.1 N NaOH, 100 mL</li> <li>▪ SDS-Gel MW Analysis Guide</li> <li>▪ SDS-MW Analysis Kit insert</li> </ul>
391734	IgG Control Standard, 3 Pack		The IgG Control Standard allows for experimental control when separating reduced or non-reduced IgG.
477422	eCAP™ Phosphate Buffer 50.0 mM, pH 2.5 (100 mL)		eCAP™ Phosphate Buffer 50.0 mM, pH 2.5, 100 mL.
477427	eCAP™ Tris Buffer, 50.0 mM, pH 8.0, 100 mL		eCAP™ Tris Buffer, 50.0 mM, pH 8.0, 100 mL.
477433	Amine Regenerator Solution		Regenerator solution for use with Amine Capillary (Part Number 477431).
477434	Marker, Neutral		Neutral Marker for monitoring Electroosmotic Flow (EOF).
477442	eCAP™ Citrate Buffer, 20.0 mM, pH 3.0 (100 mL)		eCAP™ Citrate Buffer, 20.0 mM, pH 3.0 (100 mL)
477443	eCAP™ Citrate/MES Buffer, pH 6.0 (100 mL)		20.0 mM Citrate, 20.0 mM/L MES


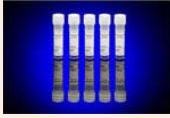
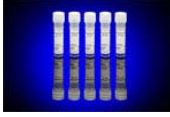
## Reagents (continued)

Part Number			Description
477444	eCAP™ Tricine Buffer, 20 mM, pH 8.0 (100 mL)		eCAP™ Tricine Buffer, 20.0 mM, pH 8.0 (100 mL)
477445	Protein Methods Development Kit		<p>The Protein Methods Development Chemistries contain coated capillaries, buffers, standards, and markers to allow you to optimize a separation method for the analysis of a broad spectrum of proteins by their mass/charge characteristics. The use of a “Neutral” separation capillary minimizes the adsorption of proteins to the capillary surface and protects against hydrophobic interactions with the surface, improving the overall efficiency and resolution of the proteins being separated. For proteins that require minimal Electroosmotic Flow (EOF) and a neutral capillary surface.</p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>▪ Neutral Capillary, 50 µm, qty 1 (Part Number 477441)</li> <li>▪ Orange G Reference Marker, 0.1% aqueous solution, 1 mL (Part Number 241524)</li> <li>▪ Histamine Reference Marker, 1% aqueous solution, 1 mL (Part Number 477446)</li> <li>▪ Citrate Buffer, pH 3, 50 mM, 100 mL (Part Number 477442)</li> <li>▪ Citrate/MES Buffer, pH 6, 50 mM, 100 mL (Part Number 477443)</li> <li>▪ Tricine Buffer, pH 8, 50 mM, 100 mL (Part Number 477444)</li> <li>▪ Protein Test Mix, qty 1 (Part Number 477436): Lysozyme, 1 mg, Ribonuclease A, 1 mg, Cytochrome C, 3 mg</li> <li>▪ Methods Development Guide</li> </ul>
477446	Histamine Reference Marker		The Histamine Reference Marker is used as a reference marker for the neutral capillary.
477483	Test Mix, eCAP™		HindIII digest, 8 fragments from 125 to 23,130 base pairs. Test Mix λDNA/Hind III Fragments
477497	cIEF Gel Polymer solution, (100 mL)		Separation Buffer for performing capillary Isoelectric Focusing.
477600	Carbohydrate Labeling and Analysis Kit		<p>The PA 800 <i>plus</i> Carbohydrate Labeling and Analysis Chemistry contains the reagents and separation capillary required to label, separate and quantify oligosaccharides and monosaccharides released from glycoproteins. Following release (enzymatic or chemical) from proteins, glycans are labeled with a fluorophore, APTS, at the reducing terminus by reductive amination. The stoichiometry of labeling is such that only one APTS molecule is attached to each molecule of oligosaccharide. These highly charged and fluorescent oligosaccharides are easily resolved in an electric field and detected using laser-induced fluorescence.</p> <p><b>Includes:</b></p> <ul style="list-style-type: none"> <li>▪ Carbohydrate Separation Buffer, 56 mL (Part Number 477623)</li> <li>▪ N-CHO Coated Capillary, qty 2 (Part Number 477601)</li> <li>▪ Labeling Reagents, qty 1 <ul style="list-style-type: none"> <li>–Labeling Dye (APTS), 4 x 5 mg</li> <li>–Labeling Dye Solvent, 1 mL (Part Number 501309)</li> <li>–Glucose Ladder Standard, 50 mg</li> <li>–Quantitation/Mobility Marker (Maltose), 0.18 mg</li> </ul> </li> <li>▪ APTS-M (APTS extra purified for monosaccharide labeling)</li> <li>▪ Carbohydrate Labeling and Analysis Guide, qty 1</li> <li>▪ Kit Insert</li> </ul>

## Reagents (continued)

Part Number			Description
477623	Carbohydrate Separation Buffer		Separation buffer for use in Carbohydrate Labeling and Analysis Assay. Also included in Carbohydrate Labeling and Analysis Kit (Part number 477600).
501309	APTS Labeling Dye, 2 x 5 mg		8-Aminopyrene-1,3,6-Trisulfonic Acid (APTS). Labeling dye used in Carbohydrate Labeling and Analysis Assay.
501333	Performance Test Mix B		Performance Test Mix. Component of Capillary Performance Test Kit.
725898	APTS-M, extra purified for Monosaccharide Analysis, 21 mg		8-Aminopyrene-1,3,6-Trisulfonic Acid M grade (APTS-M) imparts specificity, charge (for separation), and fluor (for LIF detection) properties upon a monosaccharide.
726022	Test Mix, LIF, Sodium Fluorescein (20 mL)		Sodium Fluorescein Solution for Calibration of LIF Detector.
A10663	IgG Purity and Heterogeneity Assay		<p>Includes IgG Control Standard 1-pack and all chemistries. The IgG Purity and Heterogeneity Assay has been developed for researchers employed in industrial biotechnology, who are developing and manufacturing IgG reagents for research, diagnostic and therapeutic use. This assay has been specified to assess the purity and heterogeneity of IgG reagents in both a reduced and non-reduced state. The methodology involves heat denaturing a specified concentration of IgG (both reduced and non-reduced) in the presence of SDS, and separating these proteins by size using high-resolution capillary gel electrophoresis technology. This assay will detect impurities as low as 0.1% and includes an IgG control with a designated quantity of non-glycosylated heavy chain to test both the resolution and quantitation suitability of the assay prior to running unknowns.</p> <p><b>Includes:</b></p> <ul style="list-style-type: none"><li>▪ Separation Capillary, 57 cm x 50 µm ID bare fused-silica (qty 2)</li><li>▪ SDS Gel Separation Buffer (proprietary formulation) (140 mL)</li><li>▪ SDS Sample Buffer, 100 mM Tris-HCl, pH 9.0/1% SDS (50 mL)</li><li>▪ IgG Control Standard, 1 mg/mL in SDS sample buffer (1 mL)</li><li>▪ Internal Standard, 10 kDa protein, 5 mg/mL (0.4 mL)</li><li>▪ Acidic Wash Solution, 0.1 N HCl (100 mL)</li><li>▪ Basic Wash Solution, 0.1 N NaOH (100 mL)</li><li>▪ IgG Purity and Heterogeneity Assay Application Guide (qty 1)</li><li>▪ Kit Insert</li></ul>
A22196	SDS-MW Sizing Standard (3 Pack)		Molecular Weight standards (10 to 225 KDa), 16mg/mL (100 µL) for use with the SDS-MW Kit (Part Number 390953).
A26487	10 kD Marker		10 kD marker for use with the SDS-MW Kit (Part Number 390953) and the IgG Purity and Heterogeneity Assay Kit (Part Number A10663). Contains one tube of marker (400 µl).

## Reagents (continued)

Part Number	Description		Description
A30341	SDS-MW Gel Buffer Multi Pack		SDS-MW Gel Buffer is a 4-pack of the SDS-MW gel for use with the SDS-MW Kit (Part Number 390953) and the IgG Purity and Heterogeneity Kit Assay (Part Number A10663). Each multi pack contains 4 individual bottles of buffer.
A58481	pI Marker Kit		The pI Marker Kit contains five synthetic peptide markers: 4.1, 5.5, 7.0, 9.5, 10.0, which can be used to generate a standard curve for accurate assessment of pI's. <ul style="list-style-type: none"> <li>▪ Each vial contains 240 microliters of peptide.</li> <li>▪ The kit volume enables 100 cIEF runs.</li> <li>▪ Advanced cIEF Starter Kit is also available (Part Number A80976).</li> <li>▪ cIEF Peptide pI Marker Kit Insert</li> </ul>
A80976	Advanced cIEF Starter Kit		The Advanced cIEF Starter Kit in combination with the Advanced cIEF methods, and the PA 800 <i>plus</i> system result in cIEF separation with the highest level of precision for pI determination and isoform quantitation of your sample. NOTE: Additional reagents from other vendors are required for this application. <b>Includes:</b> <ul style="list-style-type: none"> <li>▪ pI Marker Kit (Part Number A58481)</li> <li>▪ Neutral capillary (Part Number 477441)</li> <li>▪ cIEF gel (Part Number 477497)</li> <li>▪ Capillary Isoelectric Focusing (cIEF) Analysis, Application Guide</li> <li>▪ cIEF Peptide pI Marker Kit Insert</li> </ul>





## System Accessories

Part Number	Description		Description
144093	Cable, Optics, UV/Vis		Replacement UV/Vis Filter optic cable for the P/ACE MDQ and PA 800 series systems.
144094	Cable, Optics, DAD		Replacement PDA Filter optic cable for the P/ACE MDQ and PA 800 series systems.
144645	Cartridge Rebuild Kit		<b>Includes:</b> <ul style="list-style-type: none"> <li>▪ Cleaving stone</li> <li>▪ Capillary length tool</li> <li>▪ O-ring Installation tool</li> <li>▪ O-ring Aperture (qty 100)</li> <li>▪ Tweezers (plastic)</li> <li>▪ Installation Rebuild kit</li> </ul>
144647	Coolant Fill Kit		<b>Includes:</b> <ul style="list-style-type: none"> <li>▪ Syringe</li> <li>▪ Coolant fill tool</li> <li>▪ Connecting tubing</li> </ul>
144667	Lamp Assembly, Deuterium, Replacement (qty 1)		Deuterium lamp replacement for the P/ACE MDQ and PA 800 series systems.
144689	Cartridge Tubing Kit		Consists of 20-, 30-, 40-, and 50 cm lengths of cartridge coolant tubing and all connectors.
144711	Aperture, 100 x 800 μm (pkg of 3)		UV and PDA Aperture, 100 x 800 μm (kit of 3)

## System Accessories (continued)

Part Number			Description
144712	Aperture, 100 x 200 $\mu\text{m}$ (pkg of 3)		UV and PDA Aperture, 100 x 200 $\mu\text{m}$ (kit of 3)
144717	Cartridge Coolant Tube Kit, 100 cm		<b>Includes:</b> <ul style="list-style-type: none"> <li>▪ Cartridge coolant tubing (100 cm total length)</li> <li>▪ Tubing-molded nuts (qty 2)</li> <li>▪ Ferrule (qty 2)</li> <li>▪ O-ring (qty 2)</li> </ul>
144733	Upgrade Kit, UV/Vis		<b>Includes:</b> <ul style="list-style-type: none"> <li>▪ UV/Vis Detector Module</li> <li>▪ Filters (200 nm, 214 nm, 254 nm, 280 nm)</li> <li>▪ Fiber optic cable</li> </ul>
144738	Cartridge Assembly Kit, Blank		<b>Includes:</b> <ul style="list-style-type: none"> <li>▪ Cartridge body</li> <li>▪ 100 x 800 <math>\mu\text{m}</math> aperture</li> <li>▪ 100 x 200 <math>\mu\text{m}</math> aperture</li> <li>▪ Tubing kit</li> <li>▪ Nuts</li> <li>▪ Ferrules</li> <li>▪ O-rings</li> </ul>
144822	Capillary adapter kit for External Detector Adapter (EDA)		Use this part with a standard cartridge to connect the outlet of the capillary to an external detector such as mass spectrometer. This kit includes a coolant manifold assembly, coolant tubing nuts, seals, fittings, and tubing.
144829	External Detector Adapter Cartridge and Adapter Kit		External Detector Adapter cartridge with all tubing, clips, seals, etc., and the adapter couplings. Cartridge is designed to bypass onboard CE detectors.
144867	Installation Qualification, IQ		Installation Qualification involves system analysis to confirm the instrument, its modules, and its accessories have been supplied as ordered and that the instrument is properly installed at the specified location. IQ documentation provides a record that an instrument is installed per design specifications. An IQ is inclusive with instrument purchase and installation.
144951	Dual-Wavelength, Option, LIF Upgrade		Kit for conversion of single wavelength LIF detector to dual wavelength optics for existing P/ACE™ MDQ or PA 800 series users. Filters sold separately.
149044	Blank Cartridge CE/MS Kit		Organic solvent resistant capillary cartridges for use with the PA 800 series and P/ACE™ MDQ instruments.
360672	LIF Detector Filter Holder		LIF detector filter holder.
726022	Test Mix, LIF, Sodium Fluorescein (20 mL)		Sodium Fluorescein Solution for Calibration of LIF Detector.
728860	LIF 635 Laser Module		635 nm laser source for direct coupling to the PA 800 series and P/ACE™ MDQ systems.

## System Accessories (continued)

Part Number	Description		Description
969136	IEF Upgrade Module for the PA 800 and PA 800 <i>plus</i>		Includes UV detector, upgrade kit, and Advanced cIEF Starter Kit (Part Number A80976).
A47775	Electrode Replacement Kit		The electrode has a PEEK sleeve adding strength and rigidity. It features a snap-in design for easy removal and replacement. The platinum electrode is for use only with PA 800 <i>Enhanced</i> or PA 800 <i>plus</i> instruments.
A59494	Solid-State LIF Detector Upgrade for PA 800S <i>plus</i> or PA 800 <i>Enhanced</i>		Requires a PA 800S <i>plus</i> or a PA 800S <i>Enhanced</i> Pharmaceutical Analysis System. Includes a solid-state 488 laser and LIF detector module.
A59525	Electrode Replacement Tool		This tool is designed to facilitate removal and replacement of PA 800 <i>Enhanced</i> and PA 800 <i>plus</i> electrodes (Part Number A47775).

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