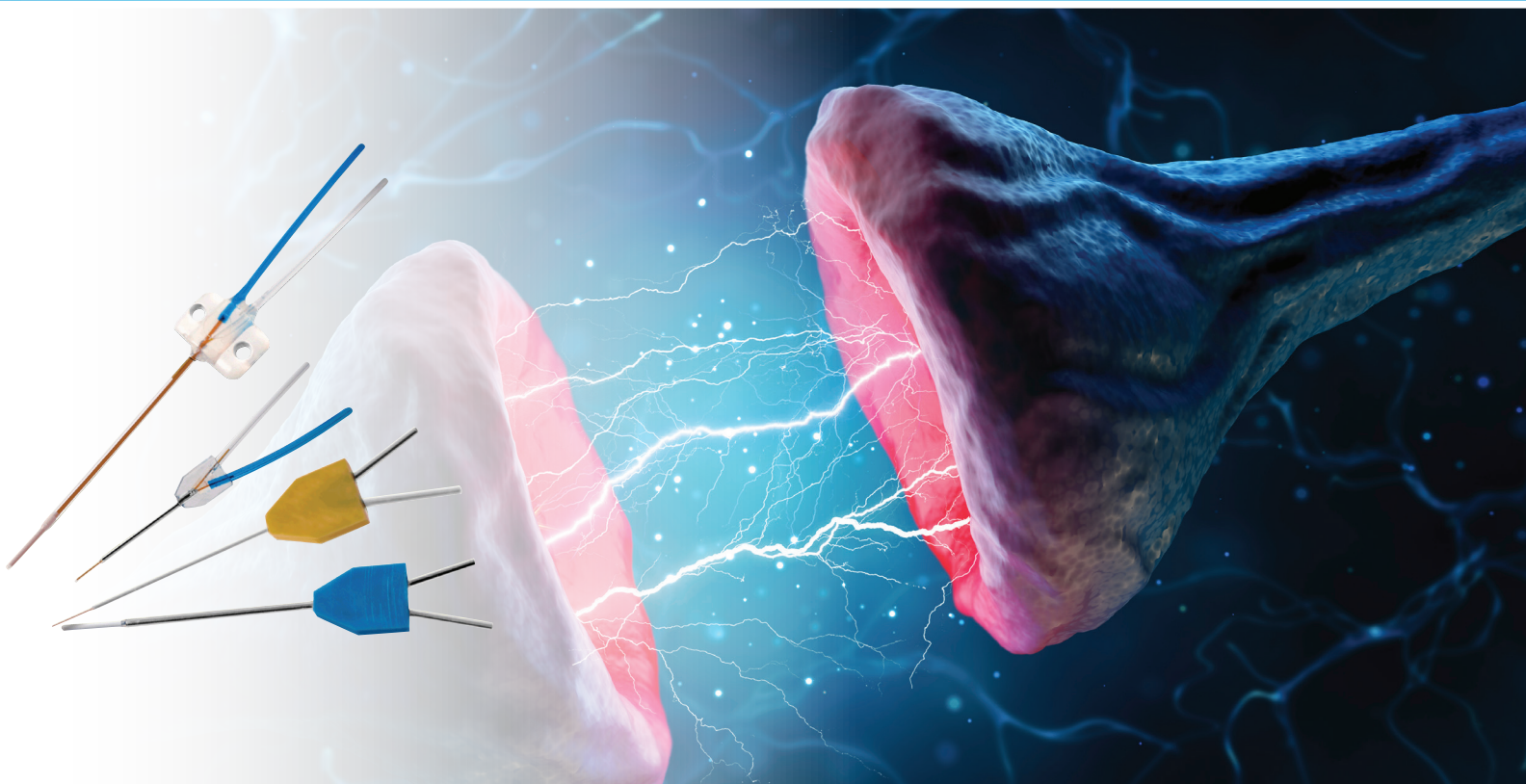


# Microdialysis Probes



- Optimize your experiments by using CMA Microdialysis probes.
- Get the best results with high quality probes!

## CMA 7 Microdialysis Probe



### Ideal for CNS in mice

- Ideal for CNS Microdialysis in mice and very small animals.
- Small areas of the brain or spinal cord.
- Ideal for chronical implantation.
- Directly mounted 20 cm inlet and outlet tubing.
- Available metal free and  $\beta$ -irradiated.

CMA 7 Microdialysis probe, 3/pkg		
<b>Cuprophane, 6 kDa cut-off</b>		
	<b>Standard Ref. #</b>	<b>Metal Free Ref. #</b>
1 mm	CMA P000082	CMA 8010771
2 mm	CMA P000083	CMA 8010772
<b>Polyethersulfone (PES), 55 kDa cut-off</b>		
1 mm	8012411	Push/Pull set-up is recommended*
2 mm	8012412	
<b>Polyethersulfone (PES), 500 kDa cut-off</b>		
1 mm	8012421	Push/Pull set-up is recommended*
2 mm	8012422	
<b>Polyethersulfone (PES), 2 MDa cut-off</b>		
1 mm	8012423	Push/Pull set-up is recommended*
2 mm	8012424	

CMA 7 Microdialysis probe, 3/pkg			
<b>Membrane Material, Cut-off</b>	Cuprophane, 6 kDa	Polyethersulfone, 55 kDa	Polyethersulfone, 500 kDa, 2 MDa
<b>Membrane Length</b>	1 and 2 mm	1 and 2 mm	1 and 2 mm
<b>Membrane Diameter</b>	0.24 mm	0.26 mm	0.28 mm
<b>Stainless Steel Shaft Diameter</b>	0.40 mm	0.40 mm	0.40 mm
<b>Shaft Length</b>	7 mm	7 mm	7 mm
<b>Inlet Internal Volume</b>	0,06 $\mu$ L	0,06 $\mu$ L	0,06 $\mu$ L
<b>Outlet Internal Volume</b>	0.3 $\mu$ L	0.3 $\mu$ L	0.3 $\mu$ L
<b>200 mm Inlet Tubing (blue)</b>	3.5 $\mu$ L	3.5 $\mu$ L	3.5 $\mu$ L
<b>200 mm Outlet Tubing (transp.)</b>	3.5 $\mu$ L	3.5 $\mu$ L	3.5 $\mu$ L

\*Solution for Push/Pull application, please contact CMA for more information

## CMA 8 Microdialysis Probe

### Ideal for CNS in mice, larger molecules

- Ideal for CNS Microdialysis in mice and very small animals.
- 20 kDa and 100 kDa membranes.
- Can be used for larger molecule studies.
- Metal free and  $\beta$ -irradiated options available as custom made probes.
- Directly mounted 20 cm inlet and outlet tubing.



CMA 8 Elite Microdialysis probe, 3/pkg	
<b>Polyarylethersulfone (PAES), 20 kDa cut-off</b>	
	<b>Standard Ref. #</b>
1 mm	CMA 8012201
2 mm	CMA 8012202
<b>CMA 8 High Cut-Off Microdialysis probe, 3/pkg</b>	
<b>Polyethersulfone (PES), 100 kDa cut-off</b>	
1 mm	CMA 8012301
2 mm	CMA 8012302

<b>Membrane Material, Cut-off</b>	Polyarylethersulfone, 20 kDa	Polyethersulfone, 100 kDa
<b>Membrane Length</b>	1 and 2 mm	1 and 2 mm
<b>Membrane Diameter</b>	0.5 mm	0.5 mm
<b>Stainless Steel Shaft Diameter</b>	0.4 mm	0.4 mm
<b>Shaft Length</b>	7 mm	7 mm
<b>Inlet Internal Volume</b>	0.06 $\mu$ L	0.06 $\mu$ L
<b>Outlet Internal Volume</b>	1 mm: 0.05 $\mu$ L 2 mm: 0.06 $\mu$ L	1 mm: 0.05 $\mu$ L 2 mm: 0.06 $\mu$ L
<b>200 mm Inlet Tubing (blue)</b>	3.5 $\mu$ L	3.5 $\mu$ L
<b>200 mm Outlet Tubing (transp.)</b>	3.5 $\mu$ L	3.5 $\mu$ L

## CMA 11 Microdialysis Probe

Ideal for CNS in rats, discrete brain regions



- Ideal for CNS Microdialysis in rats or small animals.
- Small diameter for discrete areas of the brain or spinal cord.
- High spatial resolution.
- Minimal tissue damage.
- Metal free and  $\beta$ -irradiated options available as custom made probes

CMA 11 Microdialysis probe, 3/pkg		
Cupr Cuprophane, 6kDa cut-off		
	Standard Ref. #	Metal Free Ref. #
1 mm	CMA 8309581	CMA 8011081
2 mm	CMA 8309582	CMA 8011082
3 mm	CMA 8309583	CMA 8011083
4 mm	CMA 8309584	CMA 8011084
Polyethersulfone (PES), 500 kDa cut-off		
1 mm	CMA 8012511	Push/Pull set-up is recommended*
2 mm	CMA 8012512	
3 mm	CMA 8012513	
4 mm	CMA 8012514	

CMA 11 Microdialysis probe, 3/pkg		
Polyethersulfone (PES), 500 kDa cut-off		
	Standard Ref. #	
1 mm	CMA 8012521	Push/Pull set-up is recommended*
2 mm	CMA 8012522	
3 mm	CMA 8012523	
4 mm	CMA 8012524	
Polyethersulfone (PES), 2 MDa cut-off		
1 mm	CMA 8012525	Push/Pull set-up is recommended*
2 mm	CMA 8012526	
3 mm	CMA 8012527	
4 mm	CMA 8012528	

Membrane Material, Cut-off	Cuprophane, 6 kDa	Polyethersulfone, 55 kDa	Polyethersulfone, 500 kDa, 2 MDa
Membrane Length	1,2,3 and 4 mm	1,2,3 and 4 mm	1,2,3 and 4 mm
Membrane Diameter	0.24 mm	0.26 mm	0.28 mm
Stainless Steel Shaft Diameter	0.40 mm	0.40 mm	0.40 mm
Shaft Length	14 mm	14 mm	14 mm
Inlet Internal Volume	0,1 $\mu$ L	0,1 $\mu$ L	0,1 $\mu$ L
Outlet Internal Volume	0.8 $\mu$ L (Metal Free: 0.7 $\mu$ L)	0.8 $\mu$ L (Metal Free: 0.7 $\mu$ L)	0.8 $\mu$ L (Metal Free: 0.7 $\mu$ L)

\*Solution for a Push/Pull application, please contact CMA for more information

## CMA 12 Microdialysis Probe

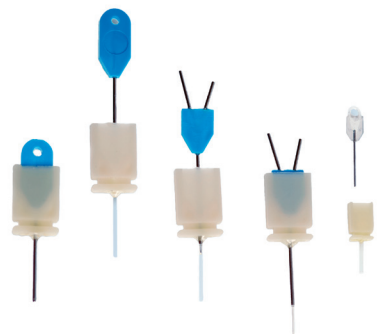
Ideal for CNS in rats



CMA 12 Elite Microdialysis probe, 3/pkg			CMA 12 High Cut-Off Microdialysis probe, 3/pkg	
Polyarylethersulfone (PAES), 20 kDa cut-off			Polyethersulfone (PES), 100 kDa cut-off	
	Standard Ref. #	Metal Free Ref. #	Standard Ref. #	Metal Free Ref. #
1 mm	CMA 8010431	CMA 8011201	CMA 8309661	CMA 8011221
2 mm	CMA 8010432	CMA 8011202	CMA 8309662	CMA 8011222
3 mm	CMA 8010433	CMA 8011203	CMA 8309663	CMA 8011223
4 mm	CMA 8010434	CMA 8011204	CMA 8309664	CMA 8011224

- Ideal for CNS Microdialysis in mice and very small animals.
- 20 kDa and 100 kDa membranes.
- Can be used for larger molecule studies.
- Metal free and  $\beta$ -irradiated options available as custom made probes.

Membrane Material, Cut-off	Polyarylethersulfone, 20 kDa	Polyethersulfone, 100 kDa
Membrane Length	1,2,3 and 4 mm	1,2,3 and 4 mm
Membrane Diameter	0.5 mm	0.28 mm
Stainless Steel Shaft Diameter	0.64 mm	0.64 mm
Shaft Length	14 mm	14 mm
Inlet Internal Volume	1 mm: 0.22 $\mu$ l (Metal Free: 1.35 $\mu$ l) 2 mm: 0.23 $\mu$ l (Metal Free: 1.40 $\mu$ l) 3 mm: 0.24 $\mu$ l (Metal Free: 1.45 $\mu$ l) 4 mm: 0.24 $\mu$ l (Metal Free: 1.50 $\mu$ l)	
Outlet Internal Volume	1 mm: 1.9 $\mu$ l (Metal Free: 1.3 $\mu$ l) 2 mm: 2.0 $\mu$ l (Metal Free: 1.3 $\mu$ l) 3 mm: 2.1 $\mu$ l (Metal Free: 1.4 $\mu$ l) 4 mm: 2.2 $\mu$ l (Metal Free: 1.4 $\mu$ l)	



## CMA 7, CMA 8, CMA 11, CMA 12 Guide Cannula

### Matched guide cannulae

CNS studies in conscious animals can be performed by implanting intracerebral guide cannula with dummy probes several days ahead of an experiment

- When ready, the dummy probe can easily be exchanged for the microdialysis probe.
- Guide use allows longer post-surgical recovery.
- Silicone coating prevents sticking.
- Simple press-fit design to easily set probe.
- Can be mounted to a stereotaxic instrument using a CMA Probe/Guide Clip.

3/pkg	
CMA 7 Guide Cannula	CMA P000137
CMA 8 Guide Cannula	CMA 8012310
CMA 11 Guide Cannula	CMA 8309017
CMA 12 Guide Cannula	CMA 8309024
CMA 7 Guide Metal Free	CMA 8010773
CMA 11 Guide Metal Free	CMA 8011085
CMA 12 Guide Metal Free	CMA 8011205

Guide Cannula	CMA 7	CMA 8	CMA 11	CMA 12
Shaft length (mm)	5	5	10,3	10,3
Shaft OD (mm)	0.58	0.63	0.58	0.86
Shaft Material	Polyamid (PA)	Polyimide (PI)	Polyamide (PA)	Polyurethane (PUR)
Dummy pin Material	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
Dummy pin Metal Free Material	PI	N/A	PI	PEEK

The guide cannula is coated with silicon on the inside in order to prevent sticking of a dummy or a probe

## CMA 20 Microdialysis Probe

### Designed for dialysis in blood vessels and peripheral tissues

- Flexible probe for peripheral tissues
- Ideal for dialysis in moving soft tissues (muscle, heart, skin and adipose tissue) as well as in blood, vitreous fluid of the eye, synovial fluid etc.
- Directly mounted 20 cm Inlet and outlet tubing.
- Can be used for large molecule studies.
- Soft, non-metallic construction.
- Introducers and split tubing are included.
- $\beta$ -irradiated available as custom made probes

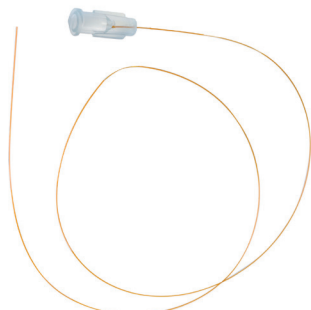


CMA 20 Elite Microdialysis probe, 3/pkg	
Polyarylethersulfone (PAES), 20kDa cut-off	
	Standard Ref. #
4 mm	CMA 8010435
10 mm	CMA 8010436
30 mm	CMA 8011430
CMA 20 High Cut-Off Microdialysis probe, 3/pkg	
4 mm	CMA 8309670
10 mm	CMA 8309671
30 mm	CMA 8011630

Membrane Material, Cut-off	Polyarylethersulfone, 20 kDa	Polyethersulfone, 100 kDa
Membrane Length	4, 10 and 30 mm	4, 10 and 30 mm
Membrane Diameter	0.50 mm	0.50 mm
Polyurethane Shaft Diameter	0.77 mm	0.77 mm
Shaft + Membrane Length	24 mm	24 mm
Inlet Internal Volume	1.4 $\mu$ L (4 mm Memb.)	1.4 $\mu$ L (4 mm Memb.)
	1.4 $\mu$ L (10 mm Memb.)	1.4 $\mu$ L (10 mm Memb.)
	2.4 $\mu$ L (30 mm Memb.)	2.4 $\mu$ L (30 mm Memb.)
Outlet Internal Volume	2.9 $\mu$ L (4 mm Memb.)	2.9 $\mu$ L (4 mm Memb.)
	2.4 $\mu$ L (10 mm Memb.)	2.4 $\mu$ L (10 mm Memb.)
	3.4 $\mu$ L (30 mm Memb.)	3.4 $\mu$ L (30 mm Memb.)

## CMA 30 Linear Microdialysis Probe

### Ideal for peripheral tissues



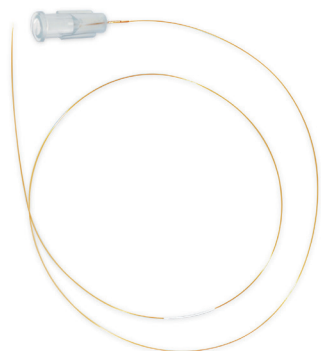
- Ideal for peripheral tissues (skin, muscle, heart, adipose tissue, liver eye, pancreas) as well as spinal cord and tumors.
- Soft and flexible construction and easy implantation using the included introducer.
- Consists of tubing in which the middle part has a window with a membrane of 6 kDa cut-off. A thin part of the tubing remains along the membrane to increase the stability of the construction.
- The inlet has a Luer Lock connector which can be attached to a single use syringe or removed in order to use with a glass syringe with a fixed needle.
- Can be sterilized in its package with ethylene oxide.
- $\beta$ -irradiated available as custom made probes

CMA 30 Linear Microdialysis probe, 4/pkg	
Cuprophane, 6 kDa Cut-Off	
	Standard Ref. #
10 mm	CMA 8010460

Membrane Material, Cut-off	Cuprophane, 6 kDa
Membrane Length	10 mm
Membrane Diameter	0.24 mm
Tubing Material	Polymide
Tubing ID/OD	0.28/0.38 mm
Inlet Lengths	250 mm
Outlet Lengths	250 m
Double Tubing OD	0.63 mm
Double Tubing Length	12 mm

## CMA 31 Linear Microdialysis Probe

### Ideal for peripheral tissue, large molecules

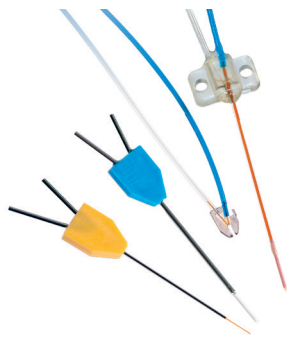


- Ideal for sampling larger molecules in peripheral tissues (skin, muscle, heart, adipose tissue, liver eye, pancreas) as well as spinal cord and tumors.
- Soft and flexible construction and easy implantation using the included introducer.
- Consists of tubing in which the middle part has a window with a membrane of 55 kDa cut-off. 500 kDa and 2 MDa available as custom made. A thin part of the tubing remains along the membrane to increase the stability of the construction.
- The inlet has a Luer Lock connector which can be attached to a single use syringe or removed in order to use with a glass syringe with a fixed needle.
- Can be sterilized in its package with ethylene oxide.
- $\beta$ -irradiated available as custom made probes

CMA 31 Linear Microdialysis probe,4/pkg	
PES, 55 kDa cut-off	
	Standard Ref. #
10 mm	CMA 8010631
PES, 500 kDa cut-off	
Available as Custom Probes	
PES, 2 MDa cut-off	
Available as Custom Probes	

Membrane Material, Cut-off	Polyethersulfone, 55kDa
Membrane Length	10 mm
Membrane Diameter	0.26 mm
Tubing Material	Polymide
Tubing ID/OD	0.12/0.19 mm
Inlet Lengths	350 mm
Outlet lengths	100 mm
Double Tubing OD	0.63 mm
Double Tubing Length	12 mm





## Custom Made Probes & Guides

For all occasions when standard probes are not adequate

- A variety of styles and sizes are available and should be chosen according to the physiochemical characteristics of recovered molecules, various organs, and biological species.
- Customer specified style, shaft length, membrane type, membrane length.
- $\beta$ -Irradiated probes available - Please reach out to us.

Probes	3 pkg	4-10 pkg	11+ pkg
CMA 7 Probe Custom Made	CMA 8010391	CMA 8010392	CMA 8010393
CMA 8 Probe Custom Made	CMA 8012401	CMA 8012402	CMA 8012403
CMA 11 Probe Custom Made	CMA 8010394	CMA 8010395	CMA 8010396
CMA 12 Probe Custom Made	CMA 8010397	CMA 8010398	CMA 8010399
CMA 20 Probe Custom Made	CMA 8010400	CMA 8010401	CMA 8010402
CMA 30 Probe Custom Made	CMA 8010498	CMA 8010499	CMA 8010500
CMA 31 Probe Custom Made	CMA 8012406	CMA 8012407	CMA 8012408

Guides	1 pkg
CMA 7 Guide Custom Made	CMA 8010313
CMA 8 Guide Custom Made	CMA 8012404
CMA 11 Guide Custom Made	CMA 8309029
CMA 12 Guide Custom Made	CMA 8309008

Optional Accessories	
CMA 11 & 12 Clip	CMA 8309013
CMA 7 & 8 Clip	CMA P000136
CMA Probe Shaft Clip	CMA 8309003
FEP Tubing 1 m	CMA 3409501
FEP Tubing 1m x 10/pkg	CMA 8409501
Tubing Adaptors, 10/pkg	CMA 3409500
Tubing Adaptors, Linear Probe 10/pkg	CMA 8010464
Trephine Drill Bits, 2/pkg	CMA 8011158
Anchor Screw Drill Bits, 3/pkg	CMA 8003264
Anchor Screws, 100/pkg	CMA 7431021
Screw Driver for Anchor Screws	CMA 8309673
Perfusion Fluid T1 5 mL, 10/pkg	CMA P000034
Perfusion Fluid CNS 5 mL, 10/pkg	CMA P000151
Perfusion Fluid CNS Dextran 5 mL, 2/pkg	CMA 8050151
Artificial CSF Perfusion Fluid, 6 x 25 mL	59-7316
CMA/20 Split Tubing, 10/pkg	CMA 8309019



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