COSMOSIL

Column for Capillary Electrophoresis

COSMO(+)Capillary

COSMO(+)Capillary is cationic polymer coated capillary column. Electroosmotic flow (EOF) is from the chthode (-) to the direction of the anode (+) because of the cationic polymer coating inside of the capillary column.

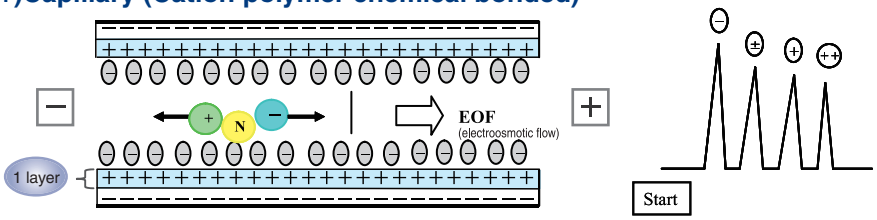
- Opposite EOF direction to non-coated capillary

- High reproducibility

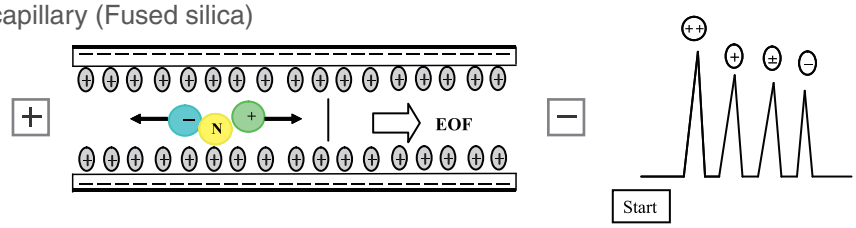
- Applicable over wide pH range (pH 2-10)

Comparison of COSMO(+)Capillary and Non-coated Capillary

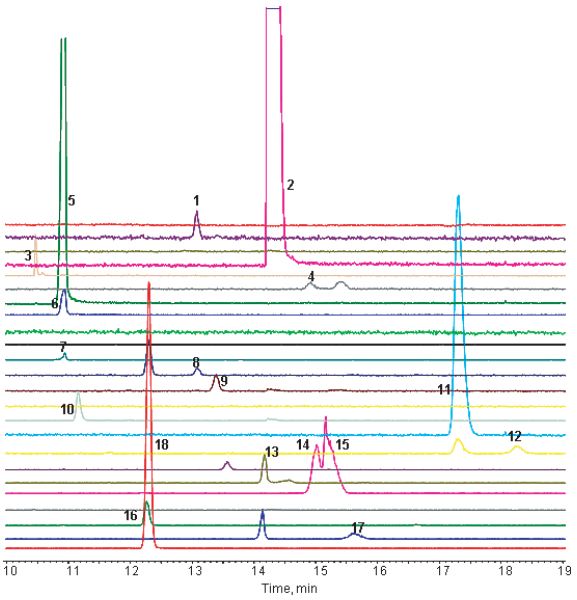
COSMO(+)Capillary (Cation polymer chemical bonded)



Untreated capillary (Fused silica)



Electropherograms for *E.coli* Metabolic Extraction



Experimental Conditions:

Sample:	*E.coli* W3110, 10^9 Cells
Capillary:	COSMO(+) 50 µm I.D. × 110 cm
Electrolyte:	50 mM Ammonium Acetate, pH8.5
Applied Potential:	-30 kV
Injection:	30 sec at 50 mbar
Temperature:	20°C
Sheath liquid:	10 µl/min 5 mM Ammonium Acetate in 50% (v/v) Methanol - Water

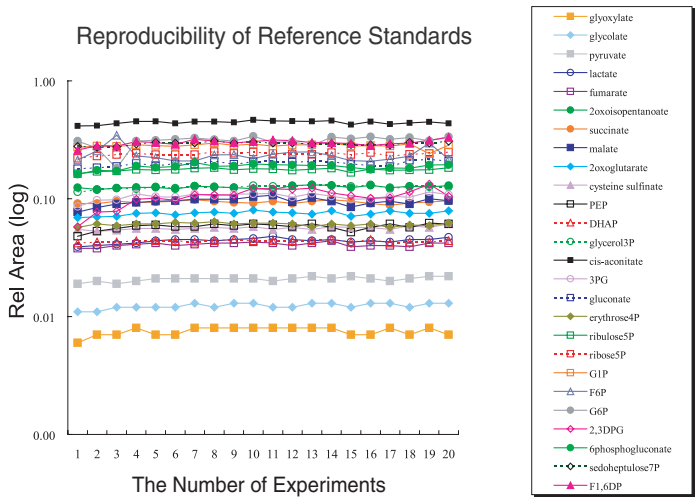
Peak Identification:

1: Glycolate	10: 3-PG
2: Lactate	11: MES (I.S.)
3: Fumarate	12: Gluconate
4: *2*-Oxoisopentanoate	13: Ribulose-5P
5: Succinate	14: G-1P
6: Malate	15: G-6P+F-6P
7: PEP	16: 2,3-DPG
8: DHAP	17: Sedoheptulose-7P
9: Glycerol-3P	18, F-1,6DP

Data courtesy of Prof. Tomoyoshi Soga,
Institute for Advanced Biosciences (IAB), Keio University

The figure shows the analysis data of various kinds of metabolites. COSMO(+)Capillary can analyze them within 20 minutes by electroosmotic flow (EOF) reversal and a sheath liquid consisting of 50 mM ammonium acetate, pH8.5.

Application Data

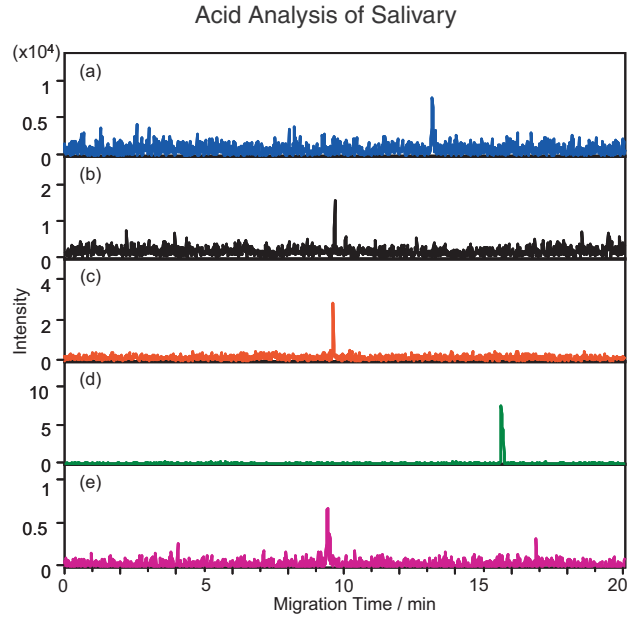


Experimental Conditions:

Sample Concentration
50 µmol/l each
Capillary
COSMO(+) 50 µm I.D. × 110 cm
Electrolyte
50 mM Ammonium Acetate, pH8.5
Applied Potential
-30 kV
Injection
30 sec at 50 mbar
Temperature
20C
Sheath liquid
10 µl/min 5 mM Ammonium Acetate
in 50% (v/v) Methanol - Water

Data courtesy of Prof. Tomoyoshi Soga, Institute for Advanced Biosciences (IAB), Keio University

The figure shows high reproducibility when COSMO(+)Capillary is used repetitively (26 reference standards).



Experimental Conditions:

Capillary
COSMO(+) 50 µm I.D. × 110 cm
Electrolyte
50 mM ammonium acetate, pH8.5
Applied Potential
-30 kV
Injection
-10 kV × 30 sec
Temperature
25C
Sheath liquid
10 mM Ammonium Carbonate: 2-Propanol =1:1

(a) Lactic Acid (m/z=89)
(b) Succinic Acid (m/z=117)
(c) Malic Acid (m/z=133)
(d) Uric Acid (m/z=167)
(e) Citrate (m/z=191)

Data courtesy of Yoshihide Tanaka, National Institute of Advanced Industrial Science and Technology

The COSMO(+)Capillary enables separation of Succinic Acid which fused silica can not separate.
Furthermore it has shorter analysis time for other acids than fused silica.

Ordering Information

Product Name	Product Number	PKG Size
COSMO(+)Capillary (50 µm I.D. x 120 cm)	07584-44	2 PKG

For research use only, not intended for diagnostic or drug use.

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The quality for certainty.

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