# AppliChrom Comparison List 2020

## AppliChrom ABOA SuperOH-P

- Optimised for aqueous GPC/SEC-separations
- Aqueous high hydrophilic polymeric base material
- Low column bleeding for low detector noise
- 7µ particle technology (standard) for high plate counts and high resolution
- Large pore volume for high resolution
- pH-stable 2-12,5
- Pressure stability 30-80bar (depending on pore size)
- Temperature stability between 10-85°C
- Individual pore sizes for individual molecular weight ranges
- Multi-pore technology for a broad range of molecular sizes
- Increased lifetime of GPC/SEC columns by combination of proprietary particle and packing technology

| **Tosoh Bioscience** | **AppliChrom ABOA SuperOH-P** |
|---|---|
| TSK G2000PW / TSK G2500PW | AppliChrom ABOA SuperOH-P-200<br>Separation Range 100Da-20.000 Da |
| TSK G3000PW | AppliChrom ABOA SuperOH-P-250<br>Separation Range 100Da-70.000 Da |
| TSK G3000PW | AppliChrom ABOA SuperOH-P-300<br>Separation Range 1.000Da-300kDa |
| TSK G4000PW / TSK G5000PW | AppliChrom ABOA SuperOH-P-350<br>Separation Range 2.500Da-1.000kDa |
| TSK G6000PW | AppliChrom ABOA SuperOH-P-400<br>Separation Range 10kDa -5.000kDa |
| TSK G6000PW | AppliChrom ABOA SuperOH-P-450<br>Separation Range 50kDa ->10MioDa |
| **Shodex** | **AppliChrom ABOA SuperOH-P** |
| Shodex OH-PAK Q801/Q802 | AppliChrom ABOA SuperOH-P-200<br>Separation Range 100Da-20.000 Da |
| Shodex OHpak SB-803 HQ | AppliChrom ABOA SuperOH-P-250<br>Separation Range 100Da-70.000 Da |
| Shodex OH-PAK SB803HQ | AppliChrom ABOA SuperOH-P-300<br>Separation Range 1.000Da-300kDa |
| Shodex OH-PAK SB804HQ / SB805HQ | AppliChrom ABOA SuperOH-P-350<br>Separation Range 2.500Da-1.000kDa |
| Shodex OH-PAK SB806HQ | AppliChrom ABOA SuperOH-P-400<br>Separation Range 10kDa -5.000kDa |
| Shodex OH-PAK SB806HQ | AppliChrom ABOA SuperOH-P-450<br>Separation Range 50kDa ->10MioDa |
| **PL** | **AppliChrom ABOA SuperOH-P** |
| PL aquagel OH 20 | AppliChrom ABOA SuperOH-P-200<br>Separation Range 100Da-20.000 Da |
| PL aquagel OH 30 | AppliChrom ABOA SuperOH-P-250<br>Separation Range 100Da-70.000 Da |
| PL aquagel OH 40 | AppliChrom ABOA SuperOH-P-300<br>Separation Range 1.000Da-300kDa |
| PL aquagel OH 50 | AppliChrom ABOA SuperOH-P-350<br>Separation Range 2.500Da-1.000kDa |
| PL aquagel OH 60 | AppliChrom ABOA SuperOH-P-400<br>Separation Range 10kDa -5.000kDa |
| PL aquagel OH 60 | AppliChrom ABOA SuperOH-P-450<br>Separation Range 50kDa ->10MioDa |

AppliChrom® Application & Chromatography, owner: Dipl.-Ing.(FH) Susanne Dauwe, Germendorfer Allee 20, D-16515 Oranienburg, Germany, ☎ + +49(0)3301 579293, Fax: ++49(0)3301 209879, info@applichrom.de

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| Waters | AppliChrom ABOA SuperOH-P |
|---|---|
| Ultrahydrogel 120Å | AppliChrom ABOA SuperOH-P-200<br>Separation Range 100Da-20.000 Da |
| Ultrahydrogel 250Å | AppliChrom ABOA SuperOH-P-250<br>Separation Range 100Da-70.000 Da |
| Ultrahydrogel 500Å | AppliChrom ABOA SuperOH-P-300<br>Separation Range 1.000Da-300kDa |
| Ultrahydrogel 1000Å | AppliChrom ABOA SuperOH-P-350<br>Separation Range 2.500Da-1.000kDa |
| Ultrahydrogel 2000Å | AppliChrom ABOA SuperOH-P-400<br>Separation Range 10kDa -5.000kDa |

## AppliChrom ABOA StyDiViBe-P

- spherical high porous styrene-divinylbenzene GPC-media
- large molecular weight range: 100 - >10.000.000Da
- optimized for 1ml/min flowrate when using 8mm ID-columns
- high pressure stability of 150-50bar, depending on porosity
- high capacity from AppliChrom 8mm ID GPC columns (5% more than 7,8mm columns, 14% more than 7,5mm ID columns)
- plus extra high pore volume from AppliChrom GPC synthesis technology for an extra increasing of peak capacity and resolution
- proprietary AppliChrom GPC column packing procedure for accurate peak performance, low back pressures and an extension of column livetime
- long column livetime for reduction of costs even at high througput screening applications
- high level of reproducibility
- high purity of AppliChrom GPC particles and columns for pure GPC mechanisms, low signal noise and reduction of „systempeaks“ after GPC run.
- GPC-examples (THF): Amylose acetat, amylose autyrat, amylose propionat, butyl rubber, cellulose diacetat, cellulosenitrat, polybutadiene, polycarbonate, polyisoprene, PMMA (polymethylmethacrylate), propylenglycol, polystyrene, polymethylstyrene, natural rubber, PVC (polyvinylchloride), polyvinylacetate, epoxid resins, polyisocyanate, polyols, polyurethans, plant oils/triglycerids/diglycerids,....
- GPC-examples (toluene): Silicones, polydimethylsiloxan.

| Tosoh Bioscience | AppliChrom ABOA StyDiViBe-P |
|---|---|
| TSKgel G1000HXL | AppliChrom ABOA StyDiViBe-P-35A<br>Separation Range 100Da-2.500 Da |
| TSKgel G2000HXL | AppliChrom ABOA StyDiViBe-P-100A<br>Separation Range 100Da-10.000 Da |
| TSKgel G2500HXL | AppliChrom ABOA StyDiViBe-P-500A<br>Separation Range 100Da-30.000 Da |
| TSKgel G3000HXL | AppliChrom ABOA StyDiViBe-P-1.000A<br>Separation Range 100Da-70.000 Da |
| TSKgel G3000HXL | AppliChrom ABOA StyDiViBe-P-1.500A<br>Separation Range 100Da-120.000 Da |
| TSKgel G4000HXL | AppliChrom ABOA StyDiViBe-P-10E4A-BPT<br>Separation Range 100Da-400.000 Da |
| TSKgel G4000HXL | AppliChrom ABOA StyDiViBe-P-10E5A-BPT<br>Separation Range 500Da-1,5Mio Da |
| TSKgel G5000HXL | AppliChrom ABOA StyDiViBe-P-10E6A-BPT<br>Separation Range 10.000Da-4Mio Da |
| TSKgel G6000HXL | AppliChrom ABOA StyDiViBe-P-10E7A-BPT<br>Separation Range 100kDa-10Mio Da |
| **PL** | **AppliChrom ABOA StyDiViBe-P** |
| PLgel 5µ 50Å | AppliChrom ABOA StyDiViBe-P-35A<br>Separation Range 100Da-2.500 Da |
| PLgel 5µ 50Å | AppliChrom ABOA StyDiViBe-P-100A<br>Separation Range 100Da-10.000 Da |
| PLgel 5µ 500Å | AppliChrom ABOA StyDiViBe-P-500A<br>Separation Range 100Da-30.000 Da |

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# AppliChrom Comparison List 2020

| | |
|---|---|
| PLgel 5µ $10^3$Å | AppliChrom ABOA StyDiViBe-P-1.000A<br>Separation Range 100Da-70.000 Da |
| PLgel 5µ $10^4$Å | AppliChrom ABOA StyDiViBe-P-10E4A-BPT<br>Separation Range 100Da-400.000 Da |
| PLgel 5µ $10^5$Å | AppliChrom ABOA StyDiViBe-P-10E5A-BPT<br>Separation Range 500Da-1,5Mio Da |
| PLgel 5µ $10^5$Å | AppliChrom ABOA StyDiViBe-P-10E6A-BPT<br>Separation Range 10.000Da-4Mio Da |
| PLgel 5µ $10^6$Å | AppliChrom ABOA StyDiViBe-P-10E7A-BPT<br>Separation Range 100kDa-10Mio Da |
| PLgel mixed Bed C | AppliChrom ABOA StyDiViBe-P-1.500A<br>Separation Range 100Da-120.000 Da |

| **Shodex**<br>KF -> In-column solvent: THF<br>K -> In-column solvent: $CHCl_3$ | **AppliChrom ABOA StyDiViBe-P** |
|---|---|
| GPC KF-801 / GPC K-801 | AppliChrom ABOA StyDiViBe-P-35A<br>Separation Range 100Da-2.500 Da |
| GPC KF-802 / GPC K-802 | AppliChrom ABOA StyDiViBe-P-100A<br>Separation Range 100Da-10.000 Da |
| GPC KF-802.5 / GPC K-802.5<br>GPC KF-803 / GPC K-803 | AppliChrom ABOA StyDiViBe-P-500A<br>Separation Range 100Da-30.000 Da |
| GPC KF-804 / GPC K-804 | AppliChrom ABOA StyDiViBe-P-1.000A<br>Separation Range 100Da-70.000 Da |
| GPC KF-804 / GPC K-804 | AppliChrom ABOA StyDiViBe-P-1.500A<br>Separation Range 100-120.000 Da |
| GPC KF-804 / GPC K-804 | AppliChrom ABOA StyDiViBe-P-10E4A-BPT<br>Separation Range 100Da-400.000 Da |
| GPC KF-805 / GPC K-805 | AppliChrom ABOA StyDiViBe-P-10E5A-BPT<br>Separation Range 500Da-1,5Mio Da |
| GPC KF-806 / GPC K-806 | AppliChrom ABOA StyDiViBe-P-10E6A-BPT<br>Separation Range 10.000Da-4Mio Da |
| GPC KF-807 / GPC K-807 | AppliChrom ABOA StyDiViBe-P-10E7A-BPT<br>Separation Range 100kDa-10Mio Da |
| **Waters** | **AppliChrom ABOA StyDiViBe-P** |
| 50Å / 100Å / HSPgel HT 1.0 | AppliChrom ABOA StyDiViBe-P-35A<br>Separation Range 100Da-2.500 Da |
| 100Å / HSPgel HT 2.0 | AppliChrom ABOA StyDiViBe-P-100A<br>Separation Range 100Da-10.000 Da |
| 500Å / HSPgel HT 2.5 | AppliChrom ABOA StyDiViBe-P-500A<br>Separation Range 100Da-30.000 Da |
| 1000Å / HSPgel HT 3.0 | AppliChrom ABOA StyDiViBe-P-1.000A<br>Separation Range 100Da-70.000 Da |
| 1000Å / HSPgel HT 3.0 | AppliChrom ABOA StyDiViBe-P-1.500A<br>Separation Range 100Da-120.000 Da |
| $10^4$Å / HSPgel HT 4.0 | AppliChrom ABOA StyDiViBe-P-10E4A-BPT<br>Separation Range 100Da-400.000 Da |
| $10^5$ / HSPgel HT 4.0 | AppliChrom ABOA StyDiViBe-P-10E5A-BPT<br>Separation Range 500Da-1,5Mio Da |
| $10^6$ / HSPgel HT 5.0 | AppliChrom ABOA StyDiViBe-P-10E6A-BPT<br>Separation Range 10.000Da-4Mio Da |
| $10^6$ / $10^7$ / HSPgel HT 6.0 | AppliChrom ABOA StyDiViBe-P-10E7A-BPT<br>Separation Range 100kDa-10Mio Da |

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## Further AppliChrom columns

| AppliChrom ABOA SugarSep | |
|---|---|
| For analysis of<br>• sugars,<br>• - sugar alcohols<br>• - alcohols | AppliChrom ABOA SugarSep-Ca I |
| | AppliChrom ABOA SugarSep-Ca II |
| | AppliChrom ABOA SugarSep-Ca III |
| For analysis of<br>• sugars,<br>• sugar alcohols,<br>• alcohols<br>• carboxylic acids | AppliChrom ABOA SugarSep-H I, (SO3H) |
| | AppliChrom ABOA SugarSep-H II, (SO3H) |
| | AppliChrom ABOA SugarSep-H III, (SO3H) |
| For analysis of<br>• sugars,<br>• especially wood hydrolysates | AppliChrom ABOA SugarSep-Pb-Wood |
| **AppliChrom ABOA DMAC-Phil-P** | |
| For GPC / SEC analysis of<br>• PMMA,<br>• PAN,<br>• cellulose,<br>• soluble polymers<br>• for use in DMF, DMAc and NMP | AppliChrom ABOA DMAC-Phil-P-100<br>Separation Range 100Da-2.500 Da |
| | AppliChrom ABOA DMAC-Phil-P-200<br>Separation Range 100Da-20.000 Da |
| | AppliChrom ABOA DMAC-Phil-P-250<br>Separation Range 100Da-70.000 Da |
| | AppliChrom ABOA DMAC-Phil-P-300<br>Separation Range 1.000Da-300kDa |
| | AppliChrom ABOA DMAC-Phil-P-350<br>Separation Range 1.000Da-1.000kDa |
| | AppliChrom ABOA DMAC-Phil-P-400<br>Separation range 10kDa-5MioDa |
| | AppliChrom ABOA DMAC-Phil-P-450<br>Separation range 100kDa->10MioDa |

| AppliChrom ABOA CatPhil-P | |
|---|---|
| Special designed for aqueous GPC/SEC including:<br>• polycations<br>• polyamines (chitosanes)<br>• polyethylenoxides<br>• polysaccarides<br>• polyanions (heparins, pectins,. .) | AppliChrom ABOA CatPhil-P-100<br>Separation Range 100Da-2.500 Da |
| | AppliChrom ABOA CatPhil-P-200<br>Separation Range 100Da-20.000 Da |
| | AppliChrom ABOA CatPhil-P-350<br>Separation Range 2,5kDa-1Mio Da |
| | AppliChrom ABOA CatPhil-P-400<br>Separation Range 10kDa-5.000kDa |

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| AppliChrom ABOA DMSO-PHIL-P | |
|---|---|
| For GPC / SEC analysis in DMSO<br>• examples:<br>• amylose, amylopectin, starch<br>• urea-formaldehyd resins (UF-resins)<br>• melamin-urea-formaldehyd resins (MUF-resins)<br>• lignins, humic substances, humic acids, coniferous wood bark essences<br>• polysaccharide, polysaccharid derivatives<br>• poly(N-isopropylacrylamid) PNIPA<br>• poly-vinylpyridin<br>• calibration: pullulan, dextran, polyvinylpyridin et al. | AppliChrom ABOA DMSO-PHIL-P-100<br>Separation Range 100-2.500 Da |
| | AppliChrom ABOA DMSO-PHIL-P-200<br>Separation Range 100-20.000 Da |
| | AppliChrom ABOA DMSO-PHIL-P-250<br>Separation Range 100-70.000 Da |
| | AppliChrom ABOA DMSO-PHIL-P-300<br>Separation Range 1.000Da-500kDa |
| | AppliChrom ABOA DMSO-PHIL-P-350<br>Separation Range 5.000Da-1.500kDa |
| | AppliChrom ABOA DMSO-PHIL-P-400<br>Separation Range 10kDa-5MioDa |
| | AppliChrom ABOA DMSO-PHIL-P-450<br>Separation Range 50K-10Mio Dalton |
| | AppliChrom ABOA DMSO-PHIL-P-600<br>Separation Range - 20Mio Da |
| | AppliChrom ABOA DMSO-PHIL-P-M<br>Separation Range 100Da-1MioDa |

Version Nov. 2019, reservedly errors and changes,

Bene Technology
Since 2006

(135-726) 서울특별시 강남구 논현동 203-1 거평타운빌딩 625호 / 전화 : 02) 517-9125, 02) 517-9120 팩스 : 02) 3444-9125 CP : 010-4466-3284
#625 Geopeoyng Town,203-1,Nonhyun-dong,kangnam-Gu, Seoul Korea (135-726) / Tel : 82-2-517-9125, 82-2-517-9120 Fax : 82-2-3444-9125
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# Letter of Authorization

To whom it may concern:

We at

**AppliChrom**
Application & Chromatography

at the address below confirm that

**Bene Technology Co.,Ltd**
**(Nonhyun-dong, Geopeoyng Town Bld)#625**
**Bongeunsa-ro 129 kangnam-Gu**
**Seoul Korea (06121)**

is an authorized distributor of **AppliChrom GPC/SEC/HPLC-Columns** in the territory of Korea.

Sign for and on behalf of AppliChrom

Oranienburg, November 2019

Susanne Dauwe
CEO

AppliChrom
Application & Chromatography

AppliChrom®
Application & Chromatography

Dipl.-Ing. (FH) Susanne Dauwe
Germendorfer Allee 20
D-16515 Oranienburg

Tel: +49 3301 579293
Fax: +49 3301 209879
e-mail: info@applichrom.de