

# USP 適用之 HPLC 分析管柱分類表 ---1---

No.	Packing material
<b>L1</b>	Octadecylsilane chemically bonded to porous silica or ceramic micro-particles, 1.5 to 10 µm in diameter.
<b>適用 Column:</b> Hypersil ODS、Hypersil BDS C18、Hypersil GOLD、Hypersil GOLD aQ、Synchronis C18、Inspire C18	
<b>L2</b>	Octadecylsilane chemically bonded to silica gel of a controlled surface porosity that has been bonded to a solid spherical core 30 to 50µm in diameter.
<b>適用 Column:</b> Pellicular ODS	
<b>L3</b>	Porous silica particles, 1.5 to 10 µm in diameter.
<b>適用 Column:</b> Hypersil Silica、Hypersil GOLD Silica、Synchronis Silica、Platisil Silica	
<b>L4</b>	Silica gel of controlled surface porosity bonded to a solid spherical core, 30 to 50µm in diameter.
<b>適用 Column:</b> Pellicular Silica	
<b>L7</b>	Octylsilane chemically bonded to totally porous or superficially porous silica particles 1.5 to 10 µm in diameter.
<b>適用 Column:</b> Hypersil MOS、Hypersil BDS C8、Hypersil GOLD C8、Synchronis C8、Inspire C8	
<b>L8</b>	An essentially monomolecular layer of aminopropylsilane chemically bonded to totally porous silica gel support, 1.5 to 10 µm in diameter.
<b>適用 Column:</b> Hypersil APS-2、Hypersil GOLD Amino、Synchronis Amino、Platisil NH2	
<b>L9</b>	Irregular or spherical, totally porous silica gel having a chemically bonded, strongly acidic cation-exchange coating, 3 to 10 µm in diameter.
<b>適用 Column:</b> Partisil SCX	
<b>L10</b>	Nitrile groups chemically bonded to porous silica particles 1.5 to 10 µm in diameter.
<b>適用 Column:</b> Hypersil CPS、Hypersil BDS Cyano、Hypersil GOLD CN、Platisil CN	
<b>L11</b>	Phenyl groups chemically bonded to porous silica particles 1.5 to 10 µm in diameter.
<b>適用 Column:</b> Hypersil Phenyl、Hypersil BDS Phenyl、Hypersil GOLD Phenyl、Platisil Phenyl	
<b>L12</b>	A strong anion-exchange packing made by chemically bonding a quaternary amine to a solid silica spherical core, 30 to 50 µm in diameter.
<b>適用 Column:</b> IonPac AS4A-SC	
<b>L13</b>	Trimethylsilane chemically bonded to porous silica particles 3 to 10 µm in diameter.
<b>適用 Column:</b> Hypersil SAS、YMC-Pack TMS、Chromegabond C1、Develosil TMS-UG	
<b>L14</b>	Silica gel having a chemically bonded, strongly basic quaternary ammonium anion-exchange coating, 5 to 10 µm in diameter.
<b>適用 Column:</b> Hypersil SAX、Hypersil GOLD SAX、Partisil SAX	
<b>L15</b>	Hexylsilane chemically bonded to totally porous silica particles, 3 to 10 µm in diameter.
<b>適用 Column:</b> Chromegabond C6	
<b>L16</b>	Dimethylsilane chemically bonded to porous silica particles, 5 to 10 µm in diameter.
<b>適用 Column:</b> Chromegabond C2	
<b>L17</b>	Strong cation-exchange resin consisting of sulfonated cross-linked styrene-divinylbenzene copolymer in the hydrogen form, 6 to 12 µm in diameter.
<b>適用 Column:</b> ICsep USP L-17、Hamilton HC-75 H+	
<b>L18</b>	Amino and cyano groups chemically bonded to porous silica particles, 3 to 10 µm in diameter.
<b>適用 Column:</b> Partisil PAC、Chromegabond A/CN	

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No.	Packing material
<b>L19</b>	Strong cation-exchange resin consisting of sulfonated cross-linked styrene-divinylbenzene copolymer in the calcium form, about 9 µm in diameter.
適用 Column: CarboSep USP L-19 CA-Form、Hamilton HC-75 Ca <sup>2+</sup>	
<b>L20</b>	Dihydropropane groups chemically bonded to porous silica particles, 1.5 to 10 µm in diameter.
適用 Column: Chromegabond Diol、YMC-Pack Diol-NP	
<b>L21</b>	A rigid, spherical styrene-divinylbenzene copolymer, 3 to 30 µm in diameter.
適用 Column: Hamilton PRP-1	
<b>L22</b>	A cation-exchange resin made of porous polystyrene gel with sulfonic acid groups, about 10 µm in size.
適用 Column: Hamilton PRP-X200	
<b>L23</b>	An anion-exchange resin made of porous polymethacrylate or polyacrylate gel with quaternary ammonium groups, 7 to 12 µm in size.
適用 Column: Shodex IEC QA-825、TSKgel SuperQ-5PW	
<b>L24</b>	A semi-rigid hydrophilic gel consisting of vinyl polymers with numerous hydroxyl groups on the matrix surface, 32 to 63 µm in diameter.
適用 Column: Toyopearl HW-type	
<b>L25</b>	Packing having the capacity to separate compounds with a molecular weight range from 100 - 5000 (as determined by polyethylene oxide), applied to neutral, anionic, and cationic water-soluble polymers. A polymethacrylate resin base, cross-linked with polyhydroxylated ether (surface contained some residual carboxyl functional groups) was found suitable.
適用 Column: OHpak SB-802 HQ、OHpak SB-802.5 HQ	
<b>L26</b>	Butyl silane chemically bonded to totally porous silica particles, 1.5 to 10 µm in diameter.
適用 Column: Hypersil GOLD C4、Chromegabond C4	
<b>L27</b>	Porous silica particles, 30 to 50 µm in diameter.
適用 Column: YMC-Pack Silica	
<b>L28</b>	A multifunctional support, which consists of a high purity, 100 Å, spherical silica substrate that has been bonded with anionic exchanger, amine functionality in addition to a conventional reversed phase C8 functionality.
適用 Column: ProTec-RP C8	
<b>L29</b>	Gamma alumina, reverse-phase, low carbon percentage by weight, alumina-based polybutadiene spherical particles, 5 µm in diameter with a pore volume of 80 angstrom units.
適用 Column: GammaBond Alumina RP1	
<b>L30</b>	Ethyl silane chemically bonded to totally porous silica particles, 3 to 10 µm in diameter.
適用 Column: Chromegabond C2	
<b>L31</b>	A hydroxide-selective, strong anion-exchange resin-quaternary amine bonded on latex particles attached to a core of 8.5 µm macroporous particles having a pore size of 2000 angstrom units and consisting of ethylvinylbenzene cross-linked with 55% divinylbenzene.
適用 Column: IonPac AS10、MCI Gel SCA04	
<b>L32</b>	A chiral ligand-exchange resin packing L-proline copper complex covalently bonded to irregular shaped silica particles, 5 to 10 µm in diameter.
適用 Column: CHIRALPAK® WH	

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No.	Packing material
<b>L33</b>	Packing having the capacity to separate dextrans by molecular size over a range of 4,000 to 500,000 daltons. It is spherical, silica-based, and processed to provide pH stability.
適用 Column: <b>SRT SEC-100</b> 、 <b>SRT SEC-150</b> 、 <b>SRT SEC-300</b> 、 <b>SRT SEC-500</b> 、 <b>BioBasic SEC 120</b> 、 <b>BioBasic SEC 300</b>	
<b>L34</b>	Strong cation-exchange resin consisting of sulfonated cross-linked styrene-divinylbenzene copolymer in the lead form, 7 to 9 $\mu\text{m}$ in diameter.
適用 Column: <b>Carbo Sep CHO-682 Lead Carbohydrate</b> 、 <b>Shodex SUGAR SP0810</b> 、 <b>Hamilton HC-75 Pb2<sup>+</sup></b>	
<b>L35</b>	A zirconium-stabilized spherical silica packing with a hydrophilic (diol-type) molecular monolayer bonded phase having a pore size of 150 Å.
適用 Column: <b>Zorbax GF-250</b>	
<b>L36</b>	A 3,5-dinitrobenzoyl derivative of L-phenylglycine covalently bonded to 5- $\mu\text{m}$ aminopropyl silica.
適用 Column: <b>Nucleosil Chiral-3</b>	
<b>L37</b>	Packing having the capacity to separate proteins by molecular size over a range of 2,000 to 40,000 daltons. It is a polymethacrylate gel.
適用 Column: <b>Shodex OHpak SB-803 HQ</b>	
<b>L38</b>	A methacrylate-base size-exclusion packing for water-soluble samples.
適用 Column: <b>Shodex OHpak SB-800HQ series</b>	
<b>L39</b>	A hydrophilic polyhydroxymethacrylate gel of totally porous spherical resin.
適用 Column: <b>Shodex OHpak SB-800HQ series</b>	
<b>L40</b>	Cellulose tris-3,5-dimethylphenylcarbamate coated porous silica particles, 5 to 20 $\mu\text{m}$ in diameter.
適用 Column: <b>CHIRALCEL® OD</b> 、 <b>CHIRALCEL® OD-RH</b>	
<b>L41</b>	Immobilized $\alpha$ 1-acid glycoprotein on spherical silica particles, 5 $\mu\text{m}$ in diameter
適用 Column: <b>CHIRALPAK® AGP</b>	
<b>L42</b>	Octylsilane and octadecylsilane groups chemically bonded to porous silica particles, 5 $\mu\text{m}$ in diameter.
適用 Column: <b>Hichrom RPB</b>	
<b>L43</b>	Pentafluorophenyl groups chemically bonded to silica particles by a propyl spacer, 1.5 to 10 $\mu\text{m}$ in diameter.
適用 Column: <b>Hypersil GOLD PFP</b>	
<b>L44</b>	A multifunctional support, which consists of a high purity, 60 Å, spherical silica substrate that has been bonded with a cationic exchanger, sulfonic acid functionality in addition to a convention reversed phase C8 functionality.
適用 Column: <b>Chromegabond RP-SCX</b>	
<b>L45</b>	Beta cyclodextrin, R,S-hydroxypropyl ether derivative, bonded to porous silica particles, 5 to 10 $\mu\text{m}$ in diameter.
適用 Column: <b>Shodex ORpak CDBS-453</b>	
<b>L46</b>	Polystyrene/divinylbenzene substrate agglomerated with quaternary amine functionalized latex beads, about 9 to 11 $\mu\text{m}$ in diameter.
適用 Column: <b>CarboPac PA1</b>	
<b>L47</b>	High capacity anion-exchange microporous substrate, fully functionalized with trimethylamine groups, 8 $\mu\text{m}$ in diameter.
適用 Column: <b>CarboPac MA1</b>	
<b>L48</b>	Sulfonated, cross-linked polystyrene with an outer layer of submicron, porous, anion-exchange microbeads, 5 to 15 $\mu\text{m}$ in diameter.
適用 Column: <b>IonPac AS5</b> 、 <b>IonPac AS7</b>	

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No.	Packing material
<b>L49</b>	A reversed-phase packing made by coating a thin layer of polybutadiene on to spherical porous zirconia particles, 3 to 10µm in diameter.
適用	Column: <b>Zirchrom PBD</b>
<b>L50</b>	Multifunction resin with reversed-phase retention and strong anion-exchange functionalities. The resin consists of ethylvinylbenzene, 55% cross-linked with divinylbenzene copolymer, 3 to 15 µm in diameter, and a surface area not less than 350m <sup>2</sup> /g. Substrate is coated with quaternary ammonium functionalized latex particles consisting of styrene cross-linked with divinylbenzene.
適用	Column: <b>OmniPac PAX-500</b>
<b>L51</b>	Amylose tris-3,5-dimethylphenylcarbamate-coated, porous, spherical, silica particles, 5 to 10 µm in diameter.
適用	Column: <b>CHIRALPAK® AD</b> 、 <b>CHIRALPAK® AD-RH</b>
<b>L52</b>	A strong cation exchange resin made of porous silica with sulfopropyl groups, 5 to 10 µ in diameter.
適用	Column: <b>BioBaisc SCX</b>
<b>L53</b>	Weak cation-exchange resin consisting of ethylvinylbenzene, 55% cross-linked with divinylbenzene copolymer, 3 to 15 µm diameter. Substrate is surface grafted with carboxylic acid and /or phosphoric acid functionalized monomers. Capacity not less than 500 µEq/column.
適用	Column: <b>IonPac CS14</b>
<b>L56</b>	Propyl silane chemically bonded to totally porous silica particles, 3 to 10 µm in diameter.
適用	Column: <b>Zorbax SB C3</b>
<b>L57</b>	A chiral-recognition protein, ovomucoid, chemically bonded to silica particles, about 5 µm in diameter, having a pore size of 120 Å.
適用	Column: <b>Ultron ES-OVM</b>
<b>L58</b>	Strong cation-exchange resin consisting of sulfonated cross-linked styrene-divinylbenzene copolymer in the sodium form, about 6 to 30 µm in diameter.
適用	Column: <b>SUGAR KS-800 series</b> 、 <b>HyperREZ Carbohydrate XP Na</b>
<b>L59</b>	Packing having the capacity to separate proteins by molecular weight over the range of 5 to 7000 kDa. The packing is spherical 1.5 to 10 µm silica or hybrid packing with a hydrophilic coating.
適用	Column: <b>PROTEIN KW-803</b>
<b>L60</b>	Spherical, porous silica gel, 10 µm or less in diameter, the surface of which has been covalently modified with alkyl amide groups and endcapped.
適用	Column: <b>HyPURITY ADVANCE</b>
<b>L61</b>	A hydroxide selective strong anion-exchange resin consisting of a highly cross-linked core of 13 µm microporous particles having a pore size less than 10 Angstrom units and consisting of ethylvinylbenzene cross-linked with 55% divinylbenzene with a latex coating composed of 85 nm diameter microbeads bonded with alkanol quaternary ammonium ions (6%)
適用	Column: <b>IonPac AS11</b>
<b>L62</b>	C30 silane bonded phase on a fully porous spherical silica, 3 to 15 µm in diameter.
適用	Column: <b>Develosil C30</b> 、 <b>YMC-Pack Carotenoid</b>
<b>L66</b>	A crown ether coated on a 5 µm particle size silica gel substrate. The active site is (S)-18-crown-6-ether.
適用	Column: <b>Crownpak CR (+)</b>

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No.	Packing material
<b>L67</b>	Porous vinyl alcohol copolymer with a C18 alkyl group attached to the hydroxyl group of the polymer, 2 to 10 µm in diameter.
適用 Column: <b>Asahipak ODP-40</b> 、 <b>Asahipak ODP-40</b> 、 <b>Shodex ET-RP1</b>	
<b>L68</b>	Spherical, porous silica, 10 µm or less in diameter, the surface of which has been covalently modified with alkyl amide groups and not endcapped.
適用 Column: <b>Suplex™ pKb-100</b>	
<b>L70</b>	Cellulose tris(phenyl carbamate) coated on 5 µm silica.
適用 Column: <b>Chiralcel OC-H</b>	
<b>L71</b>	A rigid, spherical, polymethacrylate, 4 to 6 µm in diameter.
適用 Column: <b>Shodex RSpak DE-213</b> 、 <b>Shodex RSpak DE-413</b> 、 <b>Shodex RSpak DE-613</b>	
<b>L72</b>	(S)-phenylglycine and 3,5-dinitroaniline urea linkage covalently bonded to silica.
適用 Column: <b>Sumichiral OA-3300 S</b>	
<b>L73</b>	A rigid spherical polydivinylbenzene particle, 5 to 10 µm in diameter.
適用 Column: <b>Jordi-Gel DVB</b>	
<b>L74</b>	A strong anion-exchange resin consisting of a highly cross-linked core of 7 µm macroporous particles having a 100 Angstroms average pore size and consisting of ethylvinylbenzene cross-linked with 55% divinylbenzene and an anion-exchange layer grafted to the surface, which is functionalized with alkyl quaternary ammonium ions.
適用 Column: <b>Dionex IonPac AS14A</b>	
<b>L76</b>	Silica based weak cation-exchange material, 5 µm in diameter. Substrate is surface polymerized polybutadiene-maleic acid to provide carboxylic acid functionalities. Capacity not less than 29 µEq/column.
適用 Column: <b>Dionex IonPac SCS-1</b>	
<b>L77</b>	Weak cation-exchange resin consisting of ethylvinylbenzene, 55% cross-linked with divinylbenzene copolymer, 6 to 9 µm diameter. Substrate is surface grafted with carboxylic acid functionalized groups. Capacity not less than 500 µEq/column (4 mm x 25 cm)
適用 Column: <b>Dionex IonPac CS17</b>	
<b>L78</b>	A silane ligand that consists of both reversed-phase (an alkyl chain longer than C8) and anion-exchange (primary, secondary, tertiary, or quaternary amino groups) functional groups chemically bonded to porous or non-porous silica or ceramic micro-particles, 1.0 to 50 µm in diameter, or a monolithic rod.
適用 Column: <b>Acclaim Mixed-Mode WAX-1 (Thermo)</b>	
<b>L79</b>	A chiral-recognition protein, human serum albumin (HSA), chemically bonded to silica particles, about 5 Å¼m in diameter.
適用 Column: <b>CHIRALPAK HSA</b>	
<b>L80</b>	Cellulose tris(4-methylbenzoate)-coated, porous, spherical, silica particles, 5 µm in diameter.
適用 Column: <b>Chiracel OJ</b> 、 <b>Chiracel OJ-H</b>	
<b>L81</b>	A hydroxide-selective, strong anion-exchange resin consisting of a highly cross-linked core of 9 µm porous particles having a pore size of 2000 Angstroms units and consisting of ethylvinylbenzene cross-linked with 55% divinylbenzene with a latex coating composed of 70 nm diameter microbeads (6% crosslinked) bonded with alkanol quaternary ammonium ions.
適用 Column: <b>Dionex IonPac AS-11 HC</b>	