L-column2 C8

Next-generation high-performance silica-based octyl column

Average particle size	3 μm, 5 μm
Average pore size	120 Å
Range of pH	pH 2–7.5
USP category	L7

L-column2 C8 is end-capped using the same advanced method used for *L-column2 ODS*. This column is easy to use because it provides sharp peaks in addition to it having high durability. *L-column2 C8* is most suitable for reducing the analysis time of hydrophobic compounds and conserving solvent.

■ Low adsorption

The residual silanol groups of *L-column2 C8* are reduced to the utmost limit by the advanced end-capping method. *L-column2 C8* can be used for various compounds, such as acid, basic and chelating compounds.

Figure 15 is a chromatogram of the simultaneous analysis of antihistamines. Although promethazine and clemastine are easily adsorbed by packing materials, *L-column2 C8* provides sharp peaks.

■ Reduction of analysis time

In general, the retention time for C8 columns is short because they have lower retention ability than C18 columns. For more hydrophobic analytes, the analysis time can be shortened, thus reducing the amount of solvent used. Figure 16 shows results from analysis of lipophilic vitamins using *L-column2 ODS* and *L-column2 C8* under the same HPLC conditions. Although the analysis of vitamin K using *L-column2 ODS* columns takes longer because the lipophilicity of vitamin K is high, the analysis time using *L-column2 C8* is one quarter of that using *L-column2 ODS*.

■ Difference of separation behavior with C18 column

Compared to C18 columns, almost all analytes are eluted faster on C8 columns, but the difference between the retention time for C8 columns and that for C18 columns depends on the analytes. Because the elution behavior of C8 columns is sometimes different from that of C18 columns, C8 columns can sometimes improve separation even if separation using C18 columns is not possible. Figure 17 shows that *L-column2 ODS* cannot thoroughly separate desipramine and paroxetine, while *L-column2 C8* can separate them perfectly.

■ High durability

L-column2 C8 is chemically stable and has long-term reliability because it is manufactured using the same advanced end-capping method used for *L-column2 ODS*.
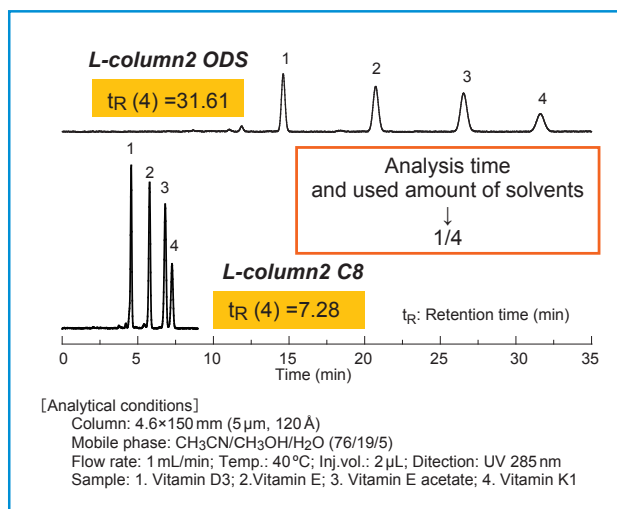

[Analytical conditions]
Column: 2.1×150 mm (5 μm)
Mobile phase: CH₃CN/25 mM Phosphate buffer pH 7.0 (40/60)
Flow rate: 0.2 mL/min; Detection: UV 220 nm; Inj.vol.: 0.5 μL
Sample: 1. Chlorpheniramine; 2.Diphenhydramine;
3. n-Butyl p-hydroxybenzoate; 4. Promethazine; 5. Clemastine

Fig. 15 Chromatogram of antihistamines.

[Analytical conditions]
Column: 4.6×150 mm (5 μm, 120 Å)
Mobile phase: CH₃CN/CH₃OH/H₂O (76/19/5)
Flow rate: 1 mL/min; Temp.: 40℃; Inj.vol.: 2 μL; Ditection: UV 285 nm
Sample: 1. Vitamin D3; 2.Vitamin E; 3. Vitamin E acetate; 4. Vitamin K1

Fig. 16 Reduction of analysis time (oil-soluble vitamines).

[Analytical conditions]
Column: 4.6×150 mm (5 μm, 120 Å)
Mobile phase: CH₃CN/25 mM Phosphate buffer pH 7.0 (35/65)
Flow rate: 1 mL/min; Temp.: 40℃; Inj.vol.: 1 μL; Detection: UV 220 nm
Sample: 1. Sulpiride; 2. Desipramine; 3. Paroxetine; 4. Maprotiline;
5. Amoxapine; 6. Trazodone hydrochloride
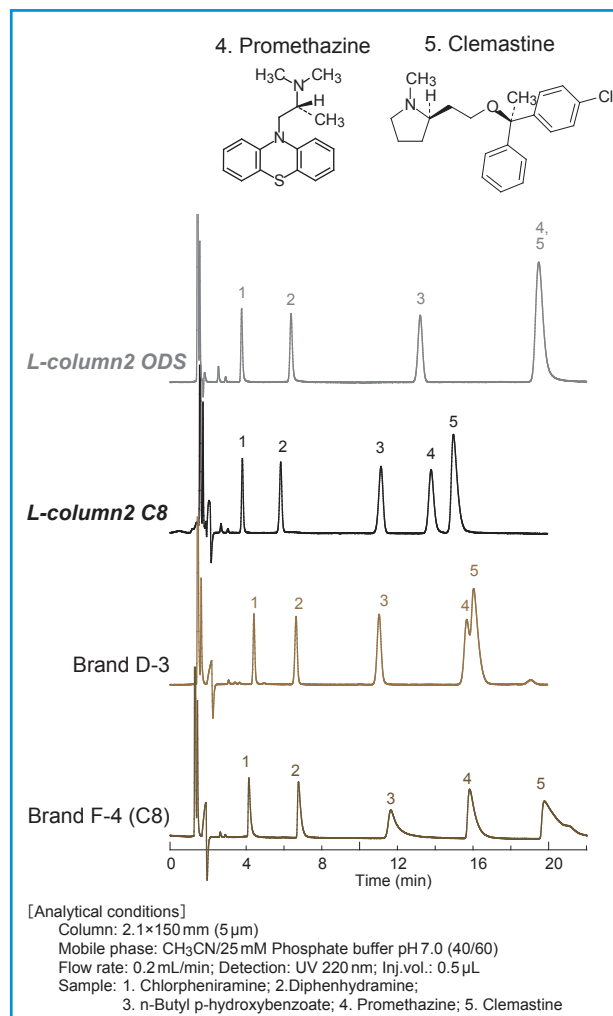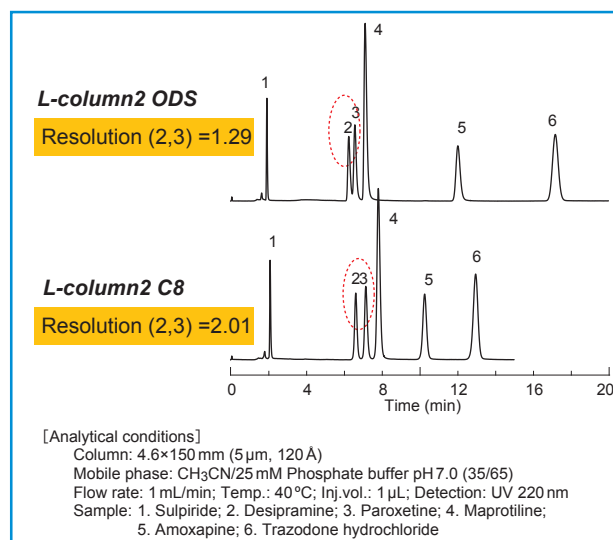
Fig. 17 Improved separation (antidepressants).