YMC-Actus

for fast semi-preparative HPLC

high throughput separations
YMC DAC system, DAU

Fast semi-preparative chromatography
Semi-preparative chromatography is the link between analytical HPLC and preparative LC. Even though the chromatographic systems used for semi-preparative LC do not reach the size of preparative LC systems, the objectives remain the same:

- Purification and isolation of maximum sample quantity
- Savings in time and costs.

With YMC-Actus time is on your side!

Technology
YMC, well known for its experience in DAC column technology, both in terms of hardware and packing procedures, has modified its robust DAC-column packing knowledge for semi-preparative column applications. In combination with a new hardware design, YMC-Actus columns achieve an outstanding durability and efficiency.

Durability
Rapid pressure changes under high-speed gradient conditions may lead to column degradation and loss of column performance.

With YMC-Actus, a new hardware and packing technology has been applied to these semi-preparative columns to provide a uniform packing density which results in a longer lifetime than conventional semi-preparative columns.

In order to determine the quality of the packing, the column performance was evaluated every 100 runs with a sequential high throughput gradient.

YMC-Actus columns offer outstanding efficiency without compromising resolution. Furthermore, YMC-Actus columns provide reliable results, even after exposure to severe, rapid gradient conditions and multiple injections.
**Excellent durability and efficiency under fast gradient condition at high flow rate**

**Glycyrrhizic acid in herb medicine**

**Analysis**

YMC-Pack ODS-AQ, 50 x 4.6 mm i.d., 5 µm
3 ml/min, 10 µl injection

**Purification**

YMC-Actus ODS-AQ, 50 x 20 mm i.d., 5 µm
60 ml/min, 500 µl injection

Eluent: A) water/acetic acid (99/1)
          B) methanol/acetic acid (99/1)
          20%B (0-2 min), 20-45%B (2-7 min),
          45%B (7-10 min)

Temperature: ambient
Detection: UV at 260 nm
Sample: water/methanol/acetic acid extract of commercially available herb medicine (0.1 g/ml)

**R&D Kits**

To minimise the problems that the process of scale-up may introduce, YMC offers YMC R&D kits, which consist of one analytical column and one YMC-Actus column packed with exactly the same packing material from the same production lot. Therefore no further method development is needed, just a simple linear scale-up calculation.

**Outstanding separation of highly polar compounds**

**Crude synthetic 30mer oligonucleotide**

**Analysis** 1.0 ml/min, 5 µl injection

**Purification** 19 ml/min, 100 µl injection

Eluent: A) 10 mM DBA-acetic acid (pH6.0)/methanol (80/40)
        B) 10 mM DBA-acetic acid (pH6.0)/methanol (20/80)
        10-35%B (0-30 min)

Temperature: ambient
Detection: UV at 269 nm
Sample: synthetic oligonucleotide (100 µM)
Excellent separations of compounds with similar structure

Capsaicinoids in red pepper

**Analysis** 50 x 4.6 mm i.d., 5 µm
2.0 ml/min, 20 µl injection

- Phenomenex Luna C18, 5 µm, 10 nm
- Waters XBridge C18, 5 µm
- YMC-Pack Pro C18 RS

**Purification**

YMC-Actus Pro C18 RS, 50 x 20 mm i.d. 5 µm
40 ml/min, 400 µl injection
Purity >99.5%

**Ordering Information**

<table>
<thead>
<tr>
<th>Packing material</th>
<th>Particle size (µm)</th>
<th>Pore size (nm)</th>
<th>Column size length x i.d. (mm)</th>
<th>Product number</th>
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* Alternative selectivities, dimensions and particle sizes are available on request.

Application data by courtesy of YMC Co., Ltd.