



# UniSil® Revo Reversed Phase Silica Gel Chromatography Media

**More thorough; more efficient**

## Introduction

UniSil® Revo reversed phase medias are based on NanoMicro's Precisely Controlled Silica (PCS) technology for monodispersed UniSil particles, but with a further revolutionary process that eliminates micropores, makes pore opening more interconnected, and at the same time, makes silica skeleton thicker. As a result, UniSil® Revo particles have pores more accessible to analytes, excellent mechanical strength, and high pH stability compared to other regular silica particles.

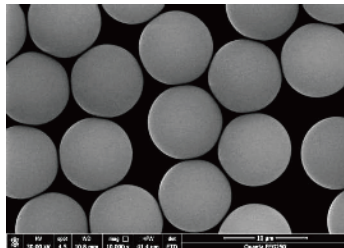


Figure 1. UniSil® Revo 10 μm SEM picture

## Characteristics

Table 1. UniSil® Revo Parameters

Particle size (μm)	Pore size (Å)	Surface area (m <sup>2</sup> /g)	Pore volume (ml/g)	Stationary phase	Max. pressure (bar)	pH range
10	120	320	1.10	C18/C8/C4	600	2-9

## Features of product



High resolution



High purity



High yield



Beter selectivity

## Mechanical strength test

UniSil® Revo particles have thicker silica skeleton; thus better mechanical strength. Figure 2 shows a linear relationship of back pressure of a 2.1 x 150 mm column with flow rate, indicating the particles are strong enough up to 9000 psi (600 bar). Figure 3 shows intact particles after the such pressure test.

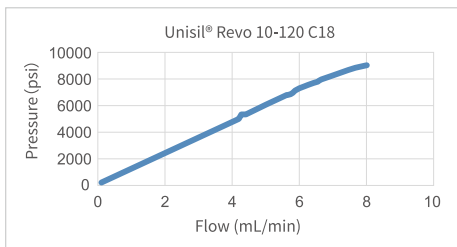


Figure 2. Pressure vs. flow of UniSil® Revo 10-120 C18

(ID 2.1 x 150 mm, mobile phase: ethanol)

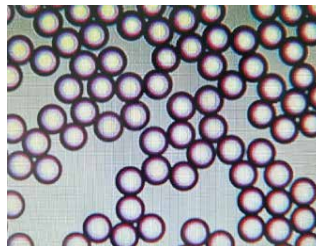


Figure 3. UniSil® Revo 10-120 C18 SEM after pressure test

## High pH stability test

After 0.1M NaOH (pH 13) flash for 9 hours, UniSil® Revo 10-120 C8 still maintained good peak shape compared to other silica C8 (Figure 4).

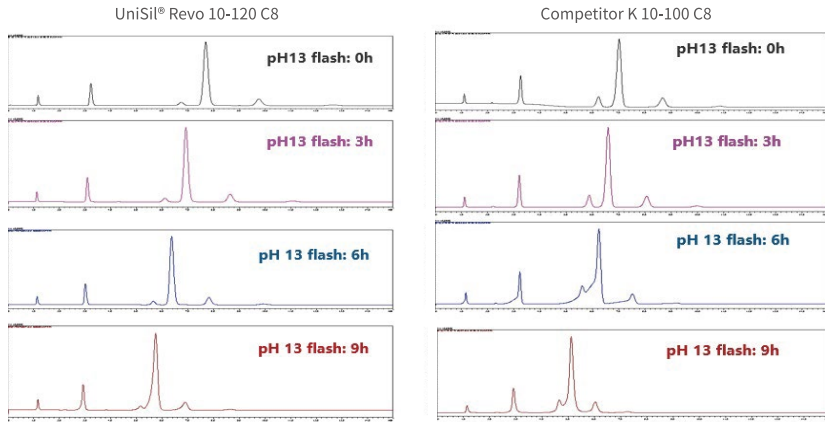


Figure 4. Comparison of UniSil® Revo 10-120 C8 and other competitor's silica 10-100 C8 in pH 13 condition

## Application – Insulin purification

### Purification condition

Column: 4.6 x 250 mm; UniSil® Revo 10-120 C18/UniSil® Revo 10-120 C8

Mobile phase: A: buffer solution; B: ACN

Flow: 0.42 mL/min

Sample loading: 14 mg/mL-CV

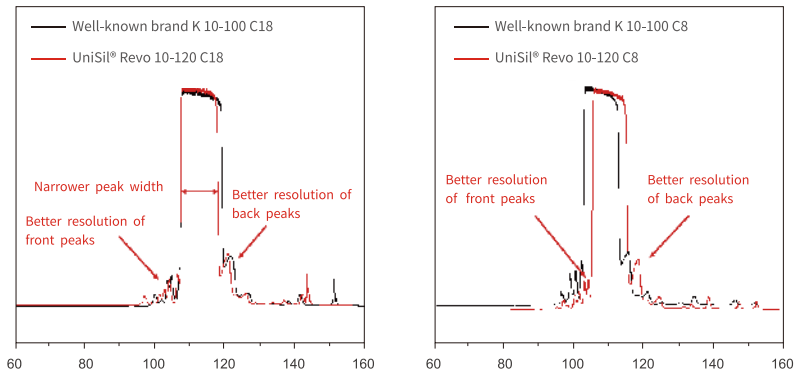


Figure 5. Comparison of UniSil® Revo and competitor K's silica

UniSil® Revo has narrower peak width compared to other competitor's silica, and better resolution for front and back impurities.

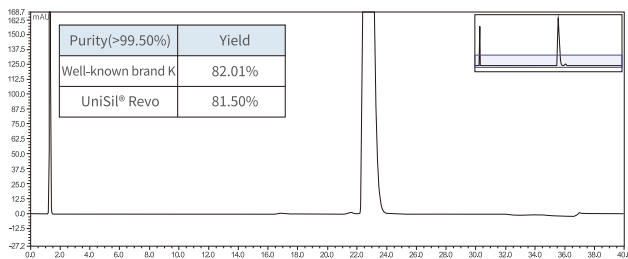


Figure 6. UniSil® Revo purified human insulin analytical chromatogram

## Application – Synthetic semaglutide purification

Semaglutide purification is always challenging among GLP-1 drugs. With UniHybrid® Eterne, NanoMicro is able to provide a better total solution for semaglutide purification.

Strategy: A two-step purification process of semaglutide

- 1st: Purification of semaglutide under basic condition using UniHybrid® Eterne C8;
  - 1st purification sample is usually dirty which requires more 0.1M NaOH washings/regenerations;
  - UniHybrid® Eterne C8 provides a higher yield under basic condition and excellent chemical lifetime for 0.1M NaOH.
- 2nd: Purification under acidic pH 3.5 condition using UniSil® Revo C8.
  - 2nd purification sample is clean which requires less 0.1M NaOH regenerations;
  - UniSil® Revo C8 provides a higher purity.

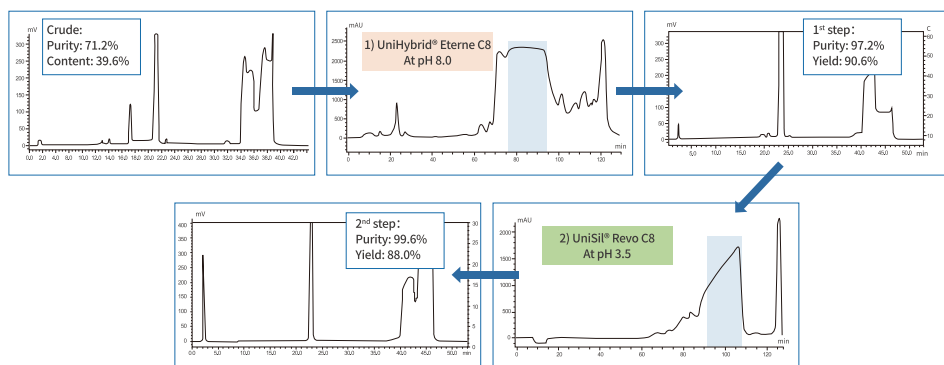


Figure 7. Fully synthetic semaglutide purification flow chart

## Ordering information

Product	Catalog #	Package size
UniSil® Revo 10-120 C18	19701-100012	30 g, 50 g, 100 g, 300 g, 500 g, 1 kg, 5 kg, 10 kg, 50 kg, 100 kg
UniSil® Revo 10-120 C8	19702-100012	
UniSil® Revo 10-120 C4	19703-100012	

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