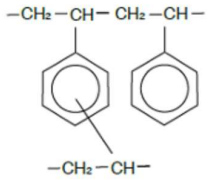
LT BIOTECH UAB
Mokslininkų g. 6A,
LT-08412 Vilnius,
Lithuania
www.ltbiotech.lt

# Corus 30-100

## 1. Basic product information

Corus 30-100 is a high-pressure chromatographic resin based on polystyrene-divinylbenzene. It has a large specific surface area, and excellent chemical and physical stability. Corus 30-100 has the advantages of high flow rate and high dynamic capacity, resistance to acid and alkali, and has a narrow pH operating range. The resin is used in reversed-phase chromatography (RPC) separation of small molecular compounds, peptides, low molecular weight proteins and other biomolecules.

## 2. Chromatography resin parameters

| | |
|---|---|
| Resin type | Reversed-phase |
| Matrix | Polystyrene-divinylbenzene |
| Chemical structure |  |
| Particle size | 10±1 µm |
| Pore size | 100 Å |
| Functional group | Phenyl |
| Swelling coefficient | ≤10% Methanol |
| Dynamic binding capacity | 32–40 mg VB12/ml<br>30–60 mg insulin/ml |
| Wet state density | 0.85–0.95 g/ml |
| Water content | 60–80% |
| Recommended flow rate | 100–1000 cm/h |
| Maximum working pressure | 5 bar |

## 3. Chemical resistance

| | |
|---|---|
| pH stability* | 2–14 (working), 1–14 (CIP) |
| Chemical stability | Stable to common aqueous buffers, 1M hydrochloric acid, 90% methanol, 90% acetic acid, 6M guanidine hydrochloride, 100% n-propanol, 100% ethanol, 100% methanol, 100% acetone, 0.45M NaOH in 40% 2-propanol, 1.0M NaOH, 0.1% trifluoroacetic acid (TFA) in water, 0.1% TFA in acetonitrile, 100% isopropanol, 100% tetrahydrofuran (THF) |

** The physical and chemical properties and functions of the chromatographic resin have no obvious changes after being placed in an environment of 40°C and pH 2–14 for 7 days.*

LT BIOTECH UAB
Mokslininkų g. 6A,
LT-08412 Vilnius,
Lithuania
www.ltbiotech.lt

## 4. Method of use

(1) Column packing: The slurry concentration is equal to the volume of the resting gel divided by the total volume after homogenisation. The best packing effect can be obtained by using 0.5M NaCl slurry, with a concentration of 70%. Methods are:
1) The column volume of the chromatographic column V is V=Ac×L, Ac=π×r2.
Ac: cross-sectional area of chromatographic column
L: height of chromatographic column
r: radius of chromatographic column
2) Agitate the medium to form a slurry, and measure the required mass or volume. It should be about 1.2 CV to prevent shrinkage.
3) Replace 20% ethanol with 0.5M NaCl solution and equilibrate overnight.
4) Before loading the column, use 0.5M NaCl solution to adjust the concentration of the slurry to 65–70%; pour the slurry into the chromatography column all at once, and mark the height after settling, to balance.
5) Install the adapter, adjust the height so the compression coefficient is 1.05~1.10; then start the infusion pump, and use a ×1.5~2 working flow rate to stabilise the column bed.
(2) Cleaning: packed columns should be cleaned with at least 5 CV of ultrapure or pure water.
(3) Flow rate: after loading the column, equilibrate with the mobile phase for 3–4CV, and control the flow rate at 1–5 cm/min until the conductivity and pH of the flow-through remain constant before loading the sample.
(4) Sample loading: solid samples can be prepared by dissolving in equilibration buffer; low-concentration sample solutions can be concentrated in advance; high-concentration sample solutions can be diluted with equilibration buffer. At the same time, to avoid clogging the chromatography column, the sample needs to be filtered (centrifugation or membrane filtration). The amount of sample loaded is estimated based on the loading capacity of the resin and the concentration of the target molecule in the sample. Before loading the sample, ensure that the target buffer solution is as consistent as possible with the equilibration buffer. The amount of sample loaded can be reduced for the first experiment, then the amount of sample loaded can be increased according to the retention time and peak shape of the target molecules.
(5) Elution: use 2–10 CV of (aqueous) solution such as methanol, ethanol, acetonitrile or acetone to dissolve, and use acid, alkali or buffer to adjust the pH value, or both, to elute the target molecules.

## 5. Cleaning and regeneration

Contaminants (e.g. lipids, endotoxins and proteins) accumulate on the column as the number of uses of the chromatography resin increases. Regular cleaning-in-place (CIP) is essential to keep the column in a stable working condition. Determine the frequency of CIP according to the degree of contamination of the chromatography resin (if the contamination is considerable, CIP is recommended after each use to ensure repeatability of results and to prolong the working life of the chromatography resin).

First use ethanol, acetone, alkali+ethanol and other solvents to wash 3–4 CV according to the operating flow rate, and then wash with equilibration buffer 3–4 CV to re-equilibrate column.

## 6. Storage

Keep the unopened chromatography resin in the original container and store at 4~30°C in a well-ventilated, dry and clean place. Do not freeze. Wash the used column with 2–3 CV of 20–25% ethanol solution and store at 2~8°C.

LT BIOTECH UAB
Mokslininkų g. 6A,
LT-08412 Vilnius,
Lithuania
www.ltbiotech.lt

## 7. Destruction and recycling

Since chromatography resin is difficult to degrade in nature, it is recommended that the waste chromatography resin is incinerated to protect the environment. For chromatography resin that has been in contact with biologically active samples such as viruses and blood, follow the local biosafety requirements before destroying or disposing of it.

## 8. Packing method

Detailed information on resin packaging is available on request. Please contact your local distributor.

## 9. Ordering information

Product name: Corus 30-100

| Product Cat. No | Package |
|---|---|
| 274-00025 | 25 ml |
| 274-00100 | 100 ml |
| 274-00500 | 500 ml |
| 274-01000 | 1 L |
| 274-05000 | 5 L |
| 274-10000 | 10 L |