

プチドおよびオリゴヌクレオチド合成用固相担体

Solid Phase Supports for Peptide Synthesis and Oligonucleotide Synthesis

1. ペプチド合成用固相担体

Solid Phase Supports for Peptide Synthesis

RS-PS100 シリーズは、ペプチド合成用の固相担体です。1990 年代に開発され、欧米や中国のお客様で数十年にわたり使用されています。最近 FDA に承認された新しい2型糖尿病治療新薬である Tirzepatide は、このシリーズの樹脂を使用して合成されました。RS-PS100 シリーズで製造された原薬（API）は、高い収率と良品質で多くの顧客から高い評価を受けています。



The RS-PS100 series resins are solid phase supports for peptide synthesis. These products were developed in the 1990s and have been manufactured for decades, used by customers in Europe, the United States and China. Tirzepatide, a weight loss drug recently approved by the FDA, is synthesized using this series of resins. APIs produced with RS-PS100 series resins are highly evaluated by many customers for their high yield and good quality.

RS-PS100 シリーズの特徴

Features of the RS-PS100 Series Resins

ペプチド合成用固相担体はゲル状の高分子樹脂で、担持する活性基によって水酸基型とアミノ基型に分類され、それぞれ C-末端ペプチド酸と C-末端ペプチドアミドを製造するために使用されます。担体の活性基を起点に、目的とするポリペプチドの塩基配列に合わせて C から N の順にアミノ酸を 1 つずつカップリングさせ、カップリングが完了したポリペプチド原薬を担体から切断・分離します。

Solid-phase support for peptide synthesis are gel-type polymer resins, which are classified into hydroxyl and amino according to the active groups loaded, and are used to produce C-terminal peptide acids or C-terminal peptide amides, respectively. Starting from the active group of the carrier, amino acids are coupled one by one from C to N according to the sequence of the target peptide, and the fully-assembled peptide is cleaved from the support after the synthesis is completed.

2. オリゴヌクレオチド (Oligonucleotide) 合成用固相担体

Solid phase support for Oligonucleotide Synthesis

オリゴヌクレオチド (Oligonucleotide) 合成用固相担体 RS-NS300 シリーズは、オリゴヌクレオチド系医薬中間体の固相合成に適したマクロポーラス架橋ポリスチレン樹脂です。DNA および RNA 合成において高純度、高収率を目標に設計されています。この製品は 2004 年から開発を開始し、2007 年から生産が開始され、10 年以上に亘って製造されています。欧州、米国、中国の顧客に採用されています。



The RS-NS300 Series as solid phase carriers for nucleic acid synthesis are macroporous cross-linked polystyrene resins for solid phase synthesis of oligonucleotide-based pharmaceutical intermediates. It is designed to target high purity and high yield in DNA-RNA synthesis. The product has been in development since 2004 and in production since 2007, and has been in production for more than a decade, with the customers located in Europe, USA and in China.

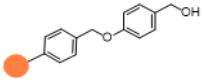
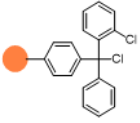
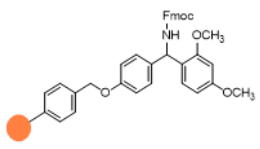
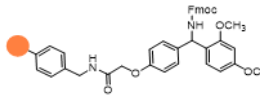
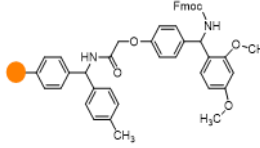
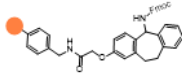
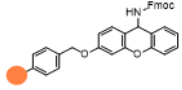
RS-NS300 シリーズの特徴

Features of the RS-NS300 Series Resins

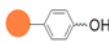
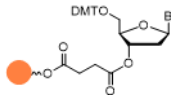
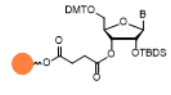
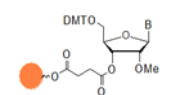
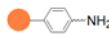
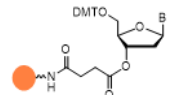
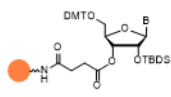
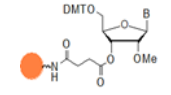
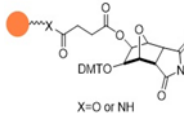
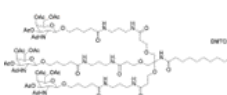
オリゴヌクレオチド (Oligonucleotide) 合成用固相担体はマクロポーラスポリマー樹脂であり、官能基の性質によりアミノ系とヒドロキシル系の 2 つのシリーズに分けられます。ペプチド合成用担体とは異なり、核酸樹脂上の官能基の違いは核酸生成物の末端構造に影響を与えません。担体に結合した分岐点を出発点として、3' から 5' まで標的配列の順にカップリングを行い、合成終了後のオリゴヌクレオチド (Oligonucleotide) を切断して担体から分離します。また、本シリーズは、お客様のご要望に応じて、ユニリンカー (UnyLinker)、L96 または 3' 核酸を予め封入することも可能です。

Solid-phase support for oligonucleotide synthesis are macro porous polymers, which are classified into hydroxyl and amino groups according to the active groups. Taking the carrier-bound linker as the starting point, the coupling is carried out from 3' to 5' according to the sequence of the target oligo, and the fully-assembled oligo is cleaved from the support after the synthesis is completed. This series of products can also be pre-loaded with UnyLinker, L96 or the 3' nucleonic acid, according to customer's requirements.

プチド合成用固相担体 RS-PS100 シリーズ
Solid Phase Supports for Peptide Synthesis RS-PS100

No.	製品名	Cross-linking (DVB %)	Particle Size (mesh)	Range of Loading (mmol/g)	Structure	Cleavage Conditions
RS-PS111	Wang resin	1 or 2%	100-200; 200-400	0.1-2.0		95% TFA
RS-PS112	2-CTC Resin	1%	100-200; 200-400	0.4-1.6		1%TFA in DCM 20%TFE in DCM
RS-PS121	Rink Amide Resin	1%	100-200; 200-400	0.3-1.0		95% TFA
RS-PS122	Rink Amide-AM Resin	1%		0.3-1.0		95% TFA
RS-PS123	Rink Amide-MBHA Resin	1%		0.3-1.0		95% TFA
RS-PS124	Ramage Amide-AM Resin	1%		0.3-1.0		3-5%TFA in DCM
RS-PS125	Sieber Resin	1%		0.2-0.8		1%TFA in DCM

オリゴヌクレオチド合成用固相担体 RS-NS300 シリーズ
Solid Phase Supports for Oligonucleotide Synthesis RS-NS300

No.	製品名	Particle Size (um)	Range of Loading (umol/g)	Structure	B or X								
RS-NS311	Hydroxyl Resins	40-80; 80-150	250, 350										
RS-NS311-B	Hydroxyl Resins with deoxyribonucleotide	40-80; 80-150	250, 350		as above								
RS-NS311-r1B	Hydroxyl Resins with ribonucleotide (2'-OTBDS)	40-80; 80-150	250, 350		as above								
RS-NS311-r2B	Hydroxyl Resins with ribonucleotide (2' -OMe)	40-80; 80-150	250, 350		as above								
RS-NS321	Amino Resins	40-80; 80-150	250, 350										
RS-NS321-B	Amino Resins with deoxyribonucleotides	40-80; 80-150	250, 350		<table border="1" data-bbox="1369 1256 1544 1350"> <thead> <tr> <th>A (NH)</th> <th>T</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> <tr> <th>C (NH)</th> <th>C (HO)</th> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>	A (NH)	T			C (NH)	C (HO)		
A (NH)	T												
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RS-NS321-r1B	Amino Resins with ribonucleotides (2' -OTBDS)	40-80; 80-150	250, 350		<table border="1" data-bbox="1385 1469 1544 1563"> <thead> <tr> <th>A (NH)</th> <th>T</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> <tr> <th>C (NH)</th> <th>C (HO)</th> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>	A (NH)	T			C (NH)	C (HO)		
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RS-NS321-r2B	Amino Resins with ribonucleotide (2' -OMe)				as above								
RS-NS311Uy (X=O) RS-NS321Uy (X=NH)	Resins with UnyLinker pre-loaded	40-80; 80-150	250, 350		X = NH or O								
RS-NS311-L96 (X=O) RS-NS321-L96(X=NH)	Resins with GalNAc(L96) preloaded (R&D only)	40-80; 80-150	100-150		X = NH or O								