

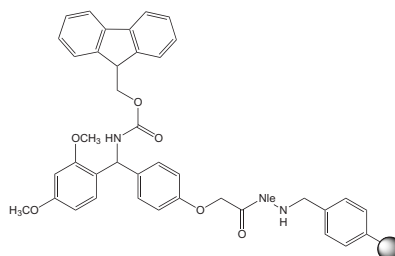
Contents

<i>NEW</i> Low-substitution resins for the synthesis of difficult or long peptides	1
<i>NEW</i> Cartridges pre-filled with Fmoc-amino acids	2
<i>NEW</i> Methylated Lys derivatives	3
<i>NEW</i> 2006/7 Novabiochem catalog	4

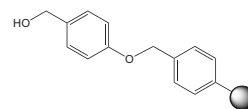
Product Focus: New products for peptide synthesis

NEW Low-substitution resins for the synthesis of difficult or long peptides

Rink Amide resin LL



Wang resin LL



Features & Benefits

- Eliminates need to underload resin
- Reduces steric hindrance during synthesis of long peptides
- Less aggregation of difficult peptides

The substitution of the base polymer matrix can have a profound influence on the outcome of solid phase peptide synthesis. It is frequently observed that as the substitution of the resin increases the synthetic efficiency decreases. This effect is thought to be caused by increased steric hindrance resulting from the higher density of peptide chains within the polymer matrix. The effects are most noticeable during the synthesis of long or difficult peptides, where high substitution can also promote and exacerbate peptide aggregation.

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It is for this reason that Novabiochem® has developed this special range of resins for Fmoc solid phase peptide synthesis with greatly reduced substitutions, typically 0.2 - 0.3 mmole/g. Wang and Rink Amide AM resins, as well as Wang resins pre-loaded with the complete range of standard Fmoc-amino acids, are available. Other resins can also be made on request.

01-64-0470	Rink Amide AM resin LL (100 - 200 mesh)	1 g
NEW		5 g
		25 g
01-64-0471	Wang resin LL (100 - 200 mesh)	5 g
NEW		25 g
		100 g
04-12-2074	Fmoc-Ala-Wang resin LL	1 g
NEW		5 g
04-12-2075	Fmoc-Arg(Pbf)-Wang resin LL	1 g
NEW		5 g
04-12-2076	Fmoc-Asn(Trt)-Wang resin LL	1 g
NEW		5 g
04-12-2073	Fmoc-Asp(OtBu)-Wang resin LL	1 g
NEW		5 g
04-12-2077	Fmoc-Cys(Trt)-Wang resin LL	1 g
NEW		5 g
04-12-2078	Fmoc-Gln(Trt)-Wang resin LL	1 g
NEW		5 g
04-12-2079	Fmoc-Glu(OtBu)-Wang resin LL	1 g
NEW		5 g
04-12-2080	Fmoc-Gly-Wang resin LL	1 g
NEW		5 g
04-12-2081	Fmoc-Ile-Wang resin LL	1 g
NEW		5 g
04-12-2082	Fmoc-Leu-Wang resin LL	1 g
NEW		5 g
04-12-2083	Fmoc-Lys(Boc)-Wang resin LL	1 g
NEW		5 g
04-12-2084	Fmoc-Met-Wang resin LL	1 g
NEW		5 g
04-12-2085	Fmoc-Phe-Wang resin LL	1 g
NEW		5 g
04-12-2086	Fmoc-Ser(tBu)-Wang resin LL	1 g
NEW		5 g
04-12-2087	Fmoc-Thr(tBu)-Wang resin LL	1 g
NEW		5 g
04-12-2088	Fmoc-Trp(Boc)-wang resin LL	1 g
NEW		5 g
04-12-2089	Fmoc-Tyr(tBu)-Wang resin LL	1 g
NEW		5 g
04-12-2090	Fmoc-Val-Wang resin LL	1 g
NEW		5 g

NEW Cartridges pre-filled with Fmoc-amino acids



Features & Benefits

- Assurance of using quality Fmoc-amino acid derivatives
- Compatible with Symphony® peptide synthesizer
- Cost effective
- Eliminates weighting errors

Novabiochem is pleased to offer cartridges for the Protein Technologies' Symphony® peptide synthesizer, pre-filled with our quality Fmoc-protected amino acids. These enable users of this instrument to experience the reassurance of using Novabiochem chemicals without the need to fill bottles themselves. Other amino acid derivatives or pack sizes can be packaged to order.

Solutions of Novabiochem's high purity Fmoc-amino acids have excellent stability if prepared using biomolecule synthesis grade DMF. Table 1 shows the HPLC purities of Fmoc-amino acid solutions in DMF recorded over a period of 7 days. With the exception of Fmoc-Cys(Trt)-OH, all derivatives exhibited less than 3% decomposition in one week.

04-12-1006	Fmoc-Ala-OH	20 mmole
NEW		
04-12-1145	Fmoc-Arg(Pbf)-OH	20 mmole
NEW		
04-12-1089	Fmoc-Asn(Trt)-OH	20 mmole
NEW		
04-12-1013	Fmoc-Asp(OtBu)-OH	20 mmole
NEW		
04-12-1014	Fmoc-Cys(Acm)-OH	20 mmole
NEW		
04-12-1018	Fmoc-Cys(Trt)-OH	20 mmole
NEW		
04-12-1090	Fmoc-Gln(Trt)-OH	20 mmole
NEW		

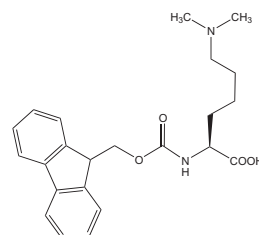
04-12-1020	Fmoc-Glu(OtBu)-OH NEW	20 mmole
04-12-1001	Fmoc-Gly-OH NEW	20 mmole
04-12-1065	Fmoc-His(Trt)-OH NEW	20 mmole
04-12-1024	Fmoc-Ile-OH NEW	20 mmole
04-12-1025	Fmoc-Leu-OH NEW	20 mmole
04-12-1026	Fmoc-Lys(Boc)-OH NEW	20 mmole
04-12-1003	Fmoc-Met-OH NEW	20 mmole
04-12-1030	Fmoc-Phe-OH NEW	20 mmole
04-12-1031	Fmoc-Pro-OH NEW	20 mmole
04-12-1033	Fmoc-Ser(tBu)-OH NEW	20 mmole
04-12-1000	Fmoc-Thr(tBu)-OH NEW	20 mmole
04-12-1103	Fmoc-Trp(Boc)-OH NEW	20 mmole
04-12-1037	Fmoc-Tyr(tBu)-OH NEW	20 mmole
04-12-1039	Fmoc-Val-OH NEW	20 mmole

Table 1: Variation of HPLC purities of solutions of Fmoc-amino acids in DMF over 7 days.

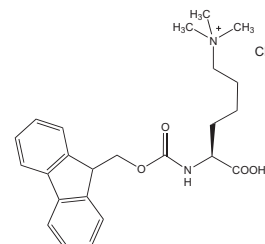
Fmoc-Amino acid	0 days	1 day	2 days	3 days	4 days	7 days
HPLC purity (%)						
Fmoc-Ala-OH	99.0	99.0	98.1	97.9	99.2	98.9
Fmoc-Arg(Pbf)-OH	99.0	98.9	98.5	98.6	98.6	97.9
Fmoc-Asn(Trt)-OH	97.5	97.2	96.9	96.9	97.9	97.3
Fmoc-Asp(OtBu)-OH	99.9	99.9	99.9	99.8	99.5	99.7
Fmoc-Cys(Trt)-OH	99.9	94.8	91.0	89.6	87.5	83.7
Fmoc-Cys(Acm)-OH	99.2	99.4	98.9	98.4	98.3	97.7
Fmoc-Gln(Trt)-OH	99.2	99.0	99.6	99.5	98.9	99.0
Fmoc-Glu(OtBu)-OH	99.4	99.2	99.7	99.4	99.4	98.7
Fmoc-Gly-OH	99.5	99.4	99.6	99.0	99.4	98.9
Fmoc-His(Trt)-OH	99.3	99.4	98.7	97.3	99.1	99.1
Fmoc-Ile-OH	99.7	99.8	99.8	99.8	99.7	99.6
Fmoc-Leu-OH	99.4	99.5	99.6	99.6	99.6	99.3
Fmoc-Lys(Boc)-OH	99.0	98.8	99.2	99.2	98.6	98.6
Fmoc-Met-OH	99.9	99.9	99.4	98.4	99.7	98.9
Fmoc-Phe-OH	99.5	99.5	99.7	99.4	98.8	98.9
Fmoc-Pro-OH	99.9	99.9	99.8	99.8	99.8	99.7
Fmoc-Ser(tBu)-OH	99.6	99.6	99.3	99.6	99.4	98.8
Fmoc-Thr(tBu)-OH	99.9	99.9	99.9	99.8	99.8	99.4
Fmoc-Trp(Boc)-OH	97.0	97.1	97.0	97.1	96.9	96.5
Fmoc-Tyr(tBu)-OH	99.6	99.2	99.7	99.7	99.4	99.0
Fmoc-Val-OH	99.9	99.8	99.8	99.8	99.8	99.6

NEW Methylated Lys derivatives

Fmoc-Lys(Me₂)-OH · HCl



Fmoc-Lys(Me₃Cl)-OH



Features & Benefits

- Direct synthesis of methylated Lys-containing peptides by automated methods
- Compatible with Fmoc SPPS
- Eliminates need for unspecific post-synthetic methylation

Post-translational methylation of lysine residues in histone proteins is thought to be an important control mechanism for the regulation of protein expression in eukaryotes [1, 2]. With all possible variations of methylated Lys occurring *in vivo*, Novabiochem is now pleased to be able to offer a complete range of Fmoc-amino acid building blocks for the synthesis of such peptides. The incorporation of mono- and trimethyl-lysine is straightforward and can be achieved using Fmoc-Lys(Me₂Boc)-OH and Fmoc-Lys(Me₃Cl)-OH, respectively, by standard Fmoc SPPS methods. The basic nature of the side chain of dimethyllysine can, however, present some problems with premature Fmoc removal. This side reaction can be minimized by introducing this and subsequent residues using DIPCI/HOBt provided an excess of HOBt is employed to ensure protonation of the basic side chain.

04-12-1269 Fmoc-Lys(Me₂)-OH · HCl 1 g
NEW 5 g

04-12-1270 Fmoc-Lys(Me₃Cl)-OH 500 mg
NEW 1 g

04-12-1263 Fmoc-Lys(Me₂Boc)-OH 500 mg
1 g

References

1. A. J. Bannister, et al. (2002) *Cell*, 109, 801.3.
2. S. Kubicek & T. Jenuwein (2004) *Cell*, 119, 903.

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New 2006/2007 Novabiochem® Catalog



Novabiochem is very pleased to announce that the 2006/2007 Catalog will be available January 2006.

Over 100 NEW products, including new:

- Fmoc-protected amino acids
- Resins for peptide synthesis
- Polymer-supported reagents
- Coupling reagents
- PEGylation reagents
- Reagents for labeling of biomolecules

Technical resources: Synthesis Notes

Synthesis Notes has been updated with many more useful protocols and application examples. Sections on peptide labeling, enhancing synthetic efficiency, and the synthesis of peptide aldehydes have been added to further enhance the utility of this valuable resource.

Merck Biosciences AG · Switzerland
Weidenmattweg 4
4448 Läufelfingen
Phone +41 (62) 285 2525
Fax +41 (62) 285 2520

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