Preloaded Resins

For Solid-Phase Synthesis of Stable Isotope-Labeled Tryptic Peptides

Through collaboration with New England Peptide, Inc. (NEP), CIL is pleased to offer synthesis-ready preloaded resins to aid the solid-phase synthesis of stable isotope-labeled tryptic peptides. These 2-chlorotrityl (2-ClTrt) resins, originally introduced by Barlos and coworkers, are ideal for the synthesis of isotopically labeled tryptic peptides for use in stable isotope dilution mass spectrometry (IDMS) assays for protein quantitation. The resins are prepared from labeled, protected amino acids with the highest chemical, isotopic, and chiral purity available. Additionally, because enantiomerization does not occur during the loading of 2-ClTrt resin, peptides containing C-terminal-labeled-arginine (Pbf) or labeled-lysine (BOC) residues can be produced essentially free from contamination by diastereomeric side-products.

2-ClTrt resins are excellent supports for use in standard solid-phase peptide synthesis protocols. Final cleavage of the peptides from the resin with standard trifluoroacetic acid-based cocktails leads to fully deprotected peptide C-terminal acids terminated with an isotopically labeled arginine (Δm = +10 amu) or lysine (Δm = +8 amu). Alternative mild acid protocols can provide isotopically labeled, protected peptide fragments.

Product Description

The resin is prepared from the highest quality cross-linked polystyrene (1% divinylbenzene) with the 2-chlorotrityl linkage directly attached to the support.

- **Loading:** 0.25-0.5 mmol/g; copoly (styrene-1% DVB)
- **Particle size:** 100-200 mesh (74-149 µm)
- **Reagent:** Labeled amino acid with Fmoc or Boc protecting group (e.g., \( ^{13}C_6/^{15}N_4 \) Arg Fmoc – CNLM-8474-H)
- **Isotope enrichment:** >99%
- **Chiral purity:** >99%

<table>
<thead>
<tr>
<th>Catalog No.</th>
<th>Description</th>
<th>Mass Shift from Unlabeled (Da)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SRPR-Ala-D</td>
<td>Preloaded resin L-Ala-N-Fmoc (( ^{13}C_3, ^{15}N, \text{98%} )) – 2-ClTrt resin</td>
<td>+3</td>
</tr>
<tr>
<td>SRPR-Arg-CN</td>
<td>Preloaded resin L-Arg-N-Fmoc, PBF-OH (( ^{13}C_3, ^{15}N_4, \text{99%} )) – 2-ClTrt resin</td>
<td>+10</td>
</tr>
<tr>
<td>SRPR-Lys-CN</td>
<td>Preloaded resin L-Lys-α-N-Fmoc, e-N-t-Boc (( ^{13}C_3, ^{15}N_2, \text{99%} )) – 2-ClTrt resin</td>
<td>+8</td>
</tr>
<tr>
<td>SRPR-Tyr-CN</td>
<td>Preloaded resin L-Tyr-N-Fmoc, O-t-butyl ether (( ^{13}C_9, ^{15}N_2, \text{99%} )) – 2-ClTrt resin</td>
<td>+10</td>
</tr>
</tbody>
</table>

Please inquire for pricing and unit sizes.

References


Chemical purity (CP) is ≥98%, unless otherwise specified. For research use only. Not for use in diagnostic procedures.