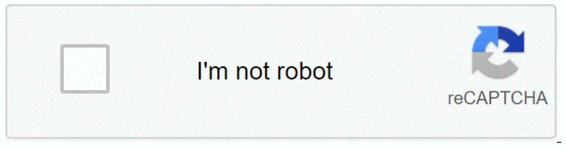
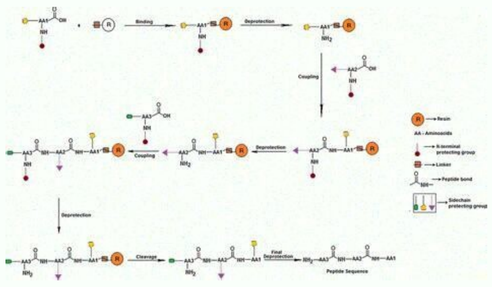



I am not robot!

AAPPTec’s Guide to Solid Phase Peptide Synthesis is an introduction to solid phase peptide synthesis It discusses how solid phase peptide synthesis is performed, the amino acid derivatives, resin and reagents used in peptide synthesis, and some of the common problems in solid phase peptide synthesis and how to avoid them, plus also suggested procedures and guides to choosing resins and planning a successful peptide synthesis.Click on the section you want to go to or download the guide as a pdf file.CLICK HERE TO DOWNLOAD GUIDE TO SOLID PHASE PEPTIDE SYNTHESIS (pdf)I. Introduction – PublicationsII. Brief Outline and History of Solid Phase Peptide SynthesisA. HistoryB. Overview of Solid Phase Peptide Synthesis1. General Solid Phase Peptide Synthesis Scheme2. Selective Deprotectiona. Boc/Bzl Protectionb. Boc Deprotection Mechanismc. Fmoc/tBu Protectiond. Fmoc Deprotection Mechanisme.
Ligation and Fragment CondensationIII. Equipment for Solid Phase Peptide SynthesisA. Manual SynthesisB.




Boc Deprotection Mechanismc. Fmoc/tBu Protectiond. Fmoc Deprotection Mechanisme. Ligation and Fragment CondensationIII. Equipment for Solid Phase Peptide SynthesisA. Manual SynthesisB. Automated SynthesizersIV. Resins for Solid Phase SynthesisA. Core Resins1. Polystyrene 2. Merrifield Resin 3. Hydroxymethyl Resin 4.

Supplementary Material (ESI) for Chemical Communications

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**Selective hydrolysis of peptides promoted by metal ions: a positional scanning approach**

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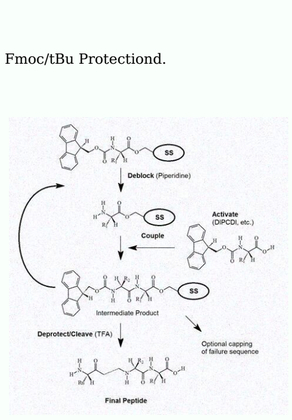
**Solid phase peptide synthesis**

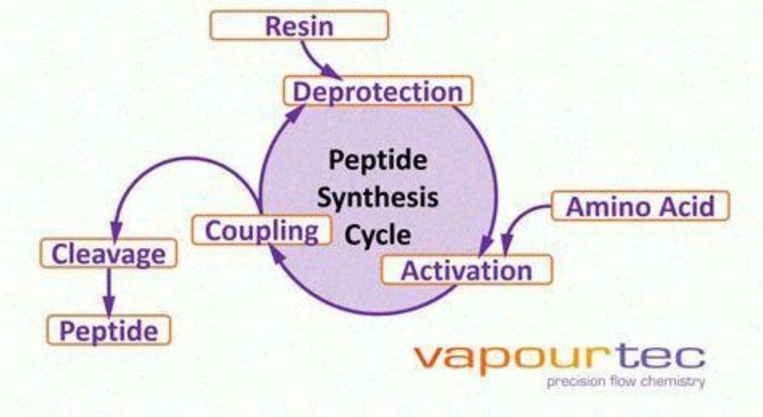
Individual acetylated dipeptides and positional scanning library samples were prepared from 2-chlorotrityl chloride resin (1.08 mmol/g) by established manual solid phase synthesis protocols using activated Fmoc-glycine, Fmoc-leucine, and Fmoc-methionine monomer units.[1] All coupling, Fmoc deprotection, and acetylation reactions proceeded to greater than 99.5% completion as accessed by ninhydrin and/or chloranil tests.[1a,d,e] Coupling and Fmoc deprotection were further confirmed by derivatization of peptides with dabsyl chloride and subsequent reversed-phase HPLC analysis.[2] The procedures employed for preparation of the individual acetylated dipeptides AcMet-Gly, AcMet-Leu, AcMet-Met, AcLeu-Met, AcGly-Gly, AcGly-Met, AcLeu-Leu, AcLeu-Gly, and AcGly-Leu are as follows.



Boc/Bzl Protectionb. Boc Deprotection Mechanismc. Fmoc/tBu Protectiond.




Ligation and Fragment CondensationIII.




Boc/Bzl Protectionb. Boc Deprotection Mechanismc. Fmoc/tBu Protectiond. Fmoc Deprotection Mechanisme. Ligation and Fragment CondensationIII. Equipment for Solid Phase Peptide SynthesisA. Manual SynthesisB. Automated SynthesizersIV. Resins for Solid Phase SynthesisA. Core Resins1. Polystyrene 2. Merrifield Resin 3. Hydroxymethyl Resin 4. Amino Core ResinsB. Linked Resins1. Linkers 2. PAM Resin 3.

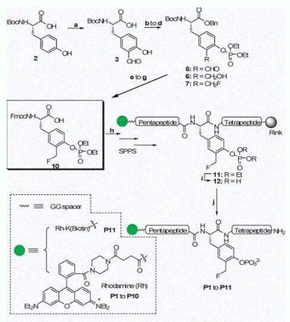



**Table 1.** The eleven probes used in this study.

| Probe | Putative Target | Original Protein Source[1] | Sequence[3] |
|---|---|---|---|
| **P1** | SHP1 | Siglec | Rh-GGDEGIH**X**SELI-$NH_2$ |
| **P2** | PTP1B/TCPTP | Stat3 | RhGGGSAAP**X**LKTK-$NH_2$ |
| **P3** | PTP1B | Stat5b | Rh-GGKAVDG**X**VKPQ-$NH_2$ |
| **P4** | LMWPTP | Zap70 | Rh-GGLNSDG**X**TPEP-$NH_2$ |
| **P5** | SHP2 | Ptk2b | Rh-GGLPPEG**X**VVVV-$NH_2$ |
| **P6** | SHP1/SHP2 | CD31 | Rh-GGNSDVQ**X**TEVQ-$NH_2$ |
| **P7** | PTP1B | Tyk2 | Rh-GGPEGHE**X**pYRVR-$NH_2$ |
| **P8** | SHP2/PTP1B | Janus | Rh-GGPQDKE**X**YKVK-$NH_2$ |
| **P9** | SHP2/PTP1B | EGFR | Rh-GGVDADE**X**LIPQ-$NH_2$ |
| **P10** | PTP1B | Zhang's[2] | Rh-GGELEF**X**MDE-$NH_2$ |
| **P11** | PTP1B | Stat5b | Rh-K(Biotin)-KAVDG**X**VKPQI-$NH_2$ |

[1] Obtained from www.hprd.org; [2] Obtained from reference 3b; [3] **X = 2-FMPT.**

Ligation and Fragment CondensationIII. Equipment for Solid Phase Peptide SynthesisA. Manual SynthesisB. Automated SynthesizersIV. Resins for Solid Phase SynthesisA. Core Resins1. Polystyrene 2. Merrifield Resin 3. Hydroxymethyl Resin 4. Amino Core ResinsB. Linked Resins1. Linkers 2. PAM Resin 3. Wang Resin 4. Amide/Amine Forming Resins for Fmoc/tBu 5. MBHA Resin 6. Trityl and 2-Cl-Trityl Resin 7. Nucleophile Labile Resins 8. DHP Resins 9. Weinreb Resin 10. Substrate-Attached ResinsV. Solvents for Solid Phase Peptide SynthesisVI. Amino Acid DerivativesA. ArginineB. Aspartic Acid and Glutamic AcidC. Asparagine and GlutamineD. Cysteine and PenicillamineE. HistidineF. Lysine, Ornithine, 2,4-Diaminobutanoic Acid and 2,3-Diaminopropanoic AcidG. MethionineH. Serine, Threonine, and 4-HydroxyprolineI. TryptophanJ. TyrosineVII. Coupling ReagentsA. CarbodiimidesB. BOP, PyBOP, PyAOP, PyBrOP, BOP-ClC.
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Fragment Coupling with TBTDUj. Solid Phase Coupling with DEPBTk. Solution Phase Coupling with DEPBTl. Head to Tail Cyclization with DEPBT4.
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