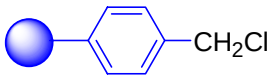
PL-CMS Resin (1)



Description

Chloromethylpolystyrene

Synonyms

Merrifield resin; poly(styrene-*co*-chloromethylstyrene)

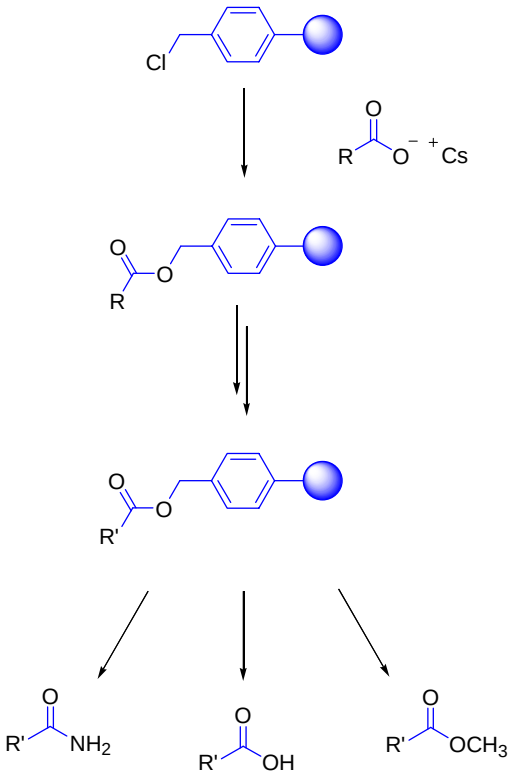
Applications

Traditional support for solid phase synthesis of peptides using Boc chemistry.

Boc-amino acids are typically attached to the resin as their cesium salt although other techniques have also been used. A slight excess of acid is neutralized with cesium carbonate and the activated acid isolated by evaporation. A solution of the activated acid in DMF should be reacted with DMF-swollen PL-CMS resin at an elevated temperature (e.g. 50°C) overnight. Cleavage typically requires treatment with very strong acid such as HF or TFMSA.
Note: Specialist equipment is required to safely perform HF cleavage operations.

Other useful techniques for cleavage include hydrogenolysis or hydrolysis to create free acids, trans-esterification to create methyl esters or aminoylsis to form carboxamides

PL-CMS Resin can be used to generate a variety of other supports via attachment of appropriate linkers, particularly via Williamson ether synthesis.



References

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Products Information

Microporous
PL-CMS Resin
1.0mmol/g 35-75µm (200-400 mesh)
0.4mmol/g 75-150µm (100-200 mesh)
0.6mmol/g 75-150µm (100-200 mesh)
0.8mmol/g 75-150µm (100-200 mesh)
1.0mmol/g 75-150µm (100-200 mesh)
1.2mmol/g 75-150µm (100-200 mesh)

2% crosslinked
1.0mmol/g 75-150µm (100-200 mesh)

PL-CMS Resin (2)

Description
Chloromethylpolystyrene

Synonyms
Merrifield resin; poly(styrene-*co*-chloromethylstyrene); styrene-chloromethylstyrene copolymer

Applications
Unlike traditional Merrifield resins which are often manufactured via direct chloromethylation of polystyrene beads, PL-CMS Resin is produced using proprietary copolymerization techniques. These give optimum control over resin loading and reproducibility and also enable particularly high loading particles, suited to synthesis of small molecule organic compounds, to be made. For lower loadings, more commonly encountered in peptide synthesis, please refer to page 16.

Organic acids are typically attached to the resin as their cesium salt, although other techniques can be used. Cleavage normally requires strong acidolysis, however alternatives include hydrogenolysis or hydrolysis to create free acids, transesterification to create methyl esters or aminolysis to create carboxamides. Secondary amines have also been attached to chloromethylpolystyrene resins for further synthetic transformations. α-Chloroethyl chloroformate is then used to generate unstable intermediates which decompose under mild conditions to generate the new secondary amines.

PL-CMS Resins can be used to generate a variety of other supports via attachment of appropriate linkers, particularly via Williamson ether synthesis.

References
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Products Information
Microporous
PL-CMS Resin
1.0mmol/g 400-500μm (35-40 mesh)
2.0mmol/g 75-150μm (100-200 mesh)
2.0mmol/g 150-300μm (50-100 mesh)
2.0mmol/g 200-250μm (60-70 mesh)
2.0mmol/g 250-300μm (50-60 mesh)
2.0mmol/g 400-500μm (35-40 mesh)
4.0mmol/g 150-300μm (50-100 mesh)

Macroporous
PL-CMS MP-Resin
3.0mmol/g 100Å 150-300μm (50-100 mesh)