



aapptec[®]

advanced automated peptide protein technologies

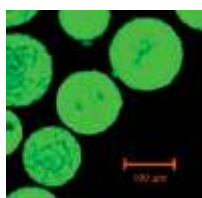
The Spirit of Innovation

Surface Resins

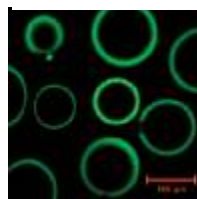
AM SURE™ = Aminomethyl Surface-Layered Polystyrene Resin (CAT# RAZ051)

aapptec's Aminomethyl Surface Active Resin is a new and unique type of resin support. Unlike other aminomethyl resins where the reactive aminomethyl groups are distributed throughout the resin bead, the reactive sites of the Surface Active Resins are confined to a thin layer on the surface of the resin. This has been demonstrated by coupling standard aminomethyl polystyrene (AM PS) and amino methyl Surface Active Resin (AM SURE™) with fluorescein isothiocyanate (FITC). Confocal fluorescence imaging of the coupled resins clearly shows fluorescence on the surface of the AM SURE beads but is evenly distributed throughout the AM PS resin beads. Visual microscopy of cross-sectioned beads also illustrates that the reactivity is only in the surface layer of the AS SURE resin.

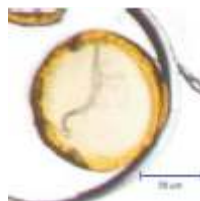
AM PS Resin



AM SURE™



Confocal fluorescence images of FITC coupled resins

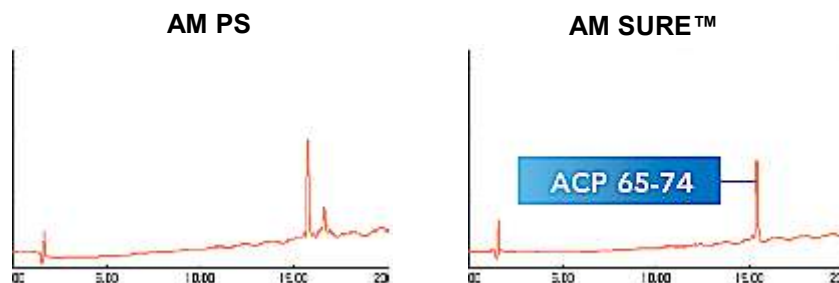


Optical microscopy of cross-sectioned FITC-coupled beads

In standard polystyrene resins the restricted space surrounding the interior reactive sites inhibits free movement of the attached peptide chain and can result in deletion or chain terminated peptide impurities. The reactive sites on Surface Active Resins are unencumbered, resulting in peptides with higher purity and yield. This is clearly demonstrated in the syntheses of ACP (65-74). While the crude peptide prepared on standard resin is only 60.7% pure, the crude peptide prepared on SURE™ resin is over 90% pure.

Synthesis of ACP (65-74)

	AM PS	AM SURE™
Loading (mmol/g)	0.41	0.42
Purity (HPLC)	60.7%	90.5%



aapptec's SURE™ supports are cost effective in preparing long or difficult peptides. Since SURE™ supports produce higher yields of the desired peptide, the peptide synthesis can be performed on smaller scale thus reducing the cost for protected amino acids and reagents. Additionally, the crude peptides prepared on SURE™ supports have higher purity resulting in easier, less costly purification.

PAM-AM SURE Resin (CAT# RPZ050)

PAM resin is less acid labile than conventional Merrifield resins, and is recommended for preparing medium or large peptides without any significant losses during repetitive Boc-deprotection. Coupling the PAM linker to AminoMethyl SURface-active RESin (PAM-AM SURE), we have produced a resin that is optimized for preparing medium to long peptides with high quality and high yield.

2-Cl-Trt Chloride SURE™ Resin (CAT# RTZ040)

2-Chlorotrityl resins are particularly useful for preparing protected peptide fragments or in cases where diketopiperazine formation can lead to premature cleavage. The bulky triphenylmethyl group prevents such attack through steric hindrance. Additionally, the amino acid is not activated when it is attached to the resin, so racemization of the amino acid is not significant. 2-Cl-Trt Chloride SURE™ resin is preferred for preparing long peptides where diketopiperazine formation may cause low yields or optical purity of the C-terminal amino acid is crucial.

Rink SURE™ Resin (CAT# RRZ060)

Rink SURE™ resin is the resin of choice for preparing large peptide amides. The peptide product is easily cleaved from the resin and simultaneously deprotected with trifluoroacetic acid.