

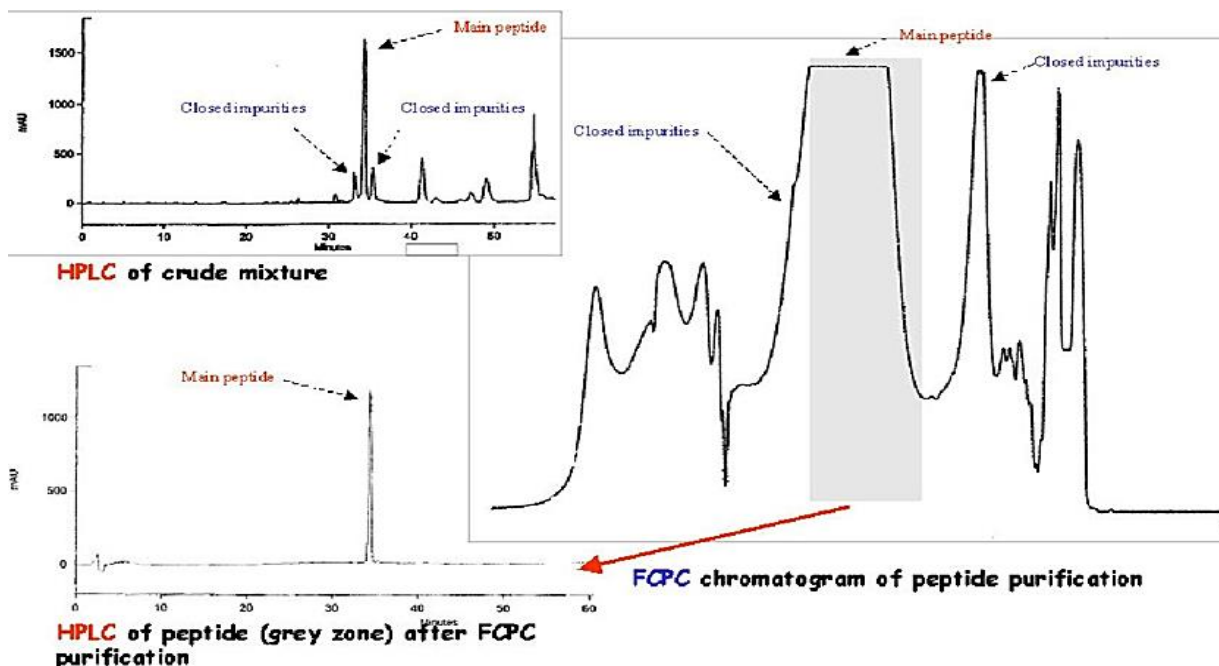
Scale up on peptide purification from Benchscale to Pilot scale FCPC™

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INTRODUCTION

Bioactive synthetic peptides have a wide range of therapeutic activities as antioxidant, anti-inflammatory, anti-HIV and more. Their purification from synthetic mixtures can be complex and expensive. FCPC™ can be utilized by implementing the butanol/water biphasic solvent systems for cost-efficient production, high purity and high recovery of peptides. This new application note deals with scale up of peptide purification from Laboratory scale FCPC™ A200 to Preparative scale FCPC™ A1000 and then to Pilot scale FCPC™ D5000. Detection is done with UV/Vis detector at 220 nm. HPLC analysis of the fractions is performed on a C18 column.

RESULTS & COCLUSIONS



Column volume	FCPC 200 ml	FCPC 1000 ml	FCPC 5000 ml
Crude mixture	Synthetic mixture with 23 % (w/w) of main peptide		
Scale up	X1	Scale up X5	Scale up X25
Mass injected	1 g	5 g	25 g
Solvent consumption	0.7 L	3.2 L	19 L
Total weight of recovered peptide	220 mg (95%)	1050 mg (91%)	5132 mg (90%)
% (w/w) of peptide recovered with purity > 90%	74.5 %	84.5 %	85 %
% (w/w) of peptide recovered with purity > 95%	32 %	49 %	77 %



Scale-up proved to be almost linear in terms of solvent consumption and productivity while, in terms of recovery, results were optimized when going up in pilot scale.