PHARMACEUTICAL Application Briefs

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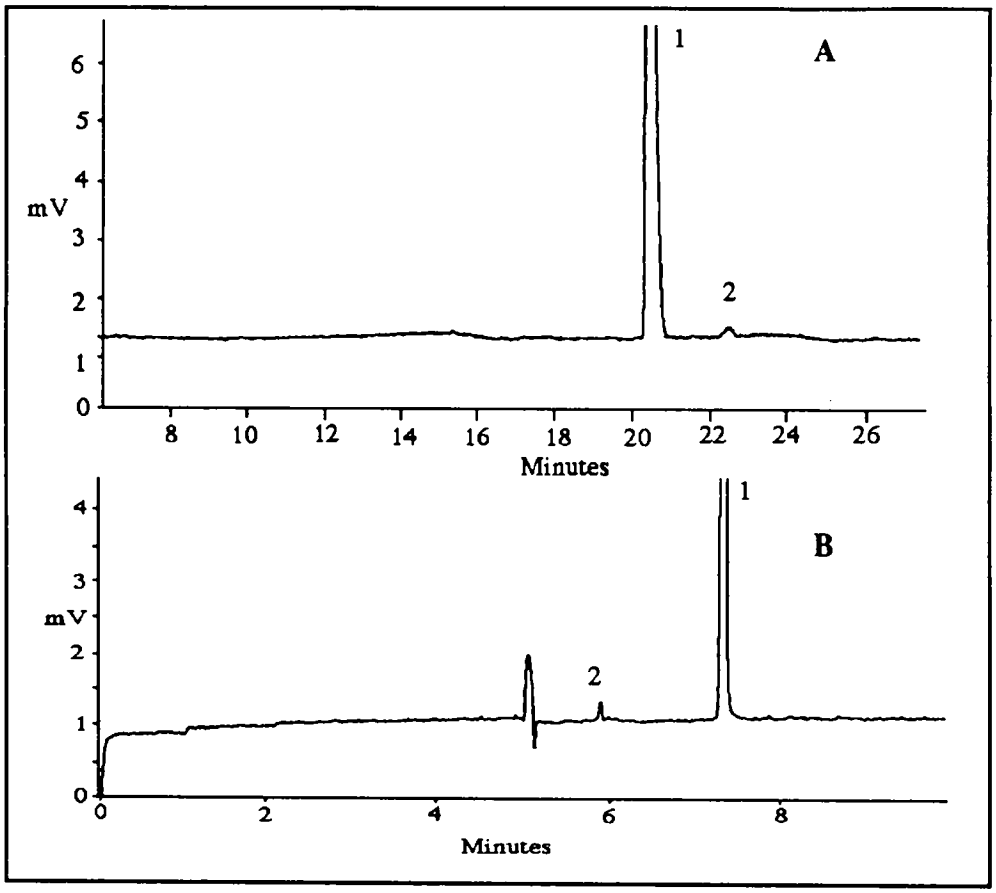
Rx Prescription for success

REDUCED ANALYSIS TIME FOR CYCLIC PEPTIDE



CONDITIONS ON WATERS QUANTA™ 4000

MODE:	FZCE
BUFFER:	A: 100 mM H_3PO_4 pH = 2
	B: 50 mM Na_2HPO_4 pH = 9 with NaOH
MODIFIER:	None
CAPILLARY:	75 µm x 60 cm
VOLTAGE:	+ 17 KV
DETECTOR:	214 nm
INJECTION:	10 sec Hystrostatic

PEAK IDENTIFICATION:

1. Cyclic Peptide
2. 1.0% Impurity

SAMPLE MATRIX:

REFERENCE: John Van Antwerp and Larry Mugavero, Application Chemists, Morristown, N.J. Laboratory

Author: Peter Rahn

INTERESTING FACTS

1. In both CE separations, the Quanta 4000 easily detects impurities at very low concentrations. Only the large linear dynamic range of the UV detector, and the extremely quiet baseline of the Quanta 4000 provides good quantitation of these small impurities. Under both CE separation conditions, the impurity level was quantitated at 1 %.

2. The original separation was performed at pH = 2 where minimal electroosmotic flow occurs. This separation required 22 minutes to complete.

3. The same sample was also separated using a pH = 9 electrolyte. At this pH the electroosmotic flow was a powerful driving force for the electrolyte in the capillary and the analysis time was reduced to 8 minutes (a 60 % reduction).

4. Unlike HPLC, repeated injections on the CE can be made every 10 minutes since the CE separations do not require equilibration after a gradient separation.