CAPSULES
preliminary notes and applications from Bioanalytical Systems, Inc.

Vasopressin & Oxytocin In Urine

Purpose
Determination of disulfide-containing peptide analogs of vasopressin in urine samples.

Synthetic analogs of vasopressin may act as antagonists at the hormone's receptor sites, thus blocking its effects. Analogs might be valuable in the treatment of kidney dysfunction and hypertension. One such analog is SK&F 101926. A rapid and accurate assay was needed in conjunction with clinical trials.

Existing Methods
None.

Reference
Quantitative Liquid Chromatographic Determination of Disulfide-Containing Peptide Analogues of Vasopressin with Dual Hg/Au Electrochemical Detection, C.T. Garvie, K.M. Straub and R.K. Lynn, J. Chromatogr., 413 (1987) 43-52.

Conditions
Detector: BAS Dual LC-4B/17A
Electrode: Dual Hg/Au
Potential: Upstream -1.0 V vs Ag/AgCl
Downstream +0.15 V vs Ag/AgCl
Column: 10 µm, C_8 (25 x 0.46 cm)
Mobile Phase: 33% Acetonitrile, 67% (v/v) 0.1 M monochloroacetic acid (pH 3.0) with 0.25% (v/v) trifluoroacetic acid (TFA).
Detection Limit: 1 ng in a 5 mL injection (S/N of 2) and 2 ng/mL of urine
Linear Range: 2-100 ng/mL urine

Sample Preparation
Samples were passed through carboxylic acid cation-exchange cartridges, washed with water and methanol, and eluted with TFA. They were then dried, redissolved in TFA, and injected in 25 µL aliquots.

Notes
The system was made suitable for detecting vasopressin and oxytocin (F1) by changing the mobile phase concentration of acetonitrile to 14% for vasopressin and 20% for oxytocin.

Use of disposable carboxylic acid cation-exchange cartridges allowed rapid, single-step purifications.

Recovery of SK&F 101926 was 90% from standard solution and 74% from urine.

The determination of vasopressin analogs presented in this report can by duplicated utilizing a BAS 200 Problem Solver, which has built-in oxygen removal capabilities and permits simultaneous detection with UV-Vis methods.

The information in this publication is supplied as a service to our customers. Performance of the methodology has not necessarily been verified by BAS technical staff.

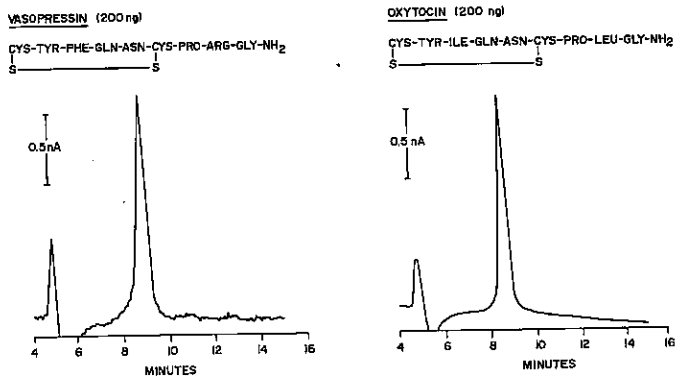

Figure 1. Chromatograms and structures of vasopressin and oxytocin

COPYRIGHT 1988, Bioanalytical Systems, Inc.