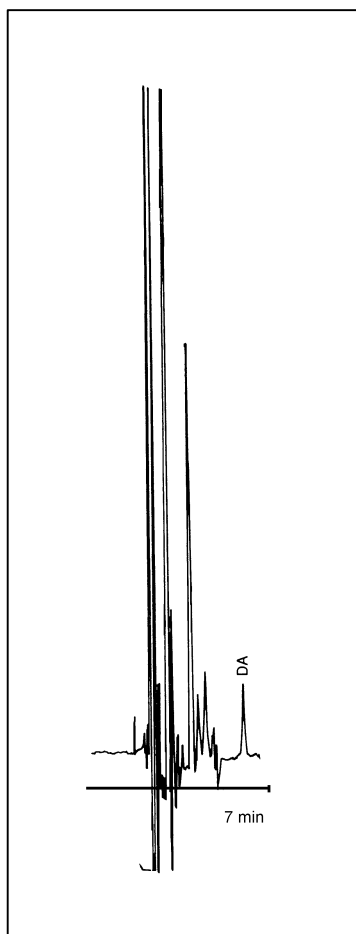


MICRODIALYSIS BY LC/ECD



The idea of using principles of dialysis to sample chemical constituents of biological fluids is at least 20 years old. However, only recently the availability of sensitive analytical techniques and small diameter hollow fiber dialysis tubes has become practical for measuring endogenous neurochemicals. After experience with a variety of electrochemical detectors for DA determination in dialysate, it was found that oxidative-reductive detectors with coulometric electrodes have great advantages over traditional thin-layer amperometer.

The figure shows a chromatogram produced by injection of 25 μ L of dialysate obtained by dialysis of the corpus striatum in an awake freely moving rat during baseline. The dialysis tip was 3mm long (26% recovery of DA), the animal was tested 18 hours after the probe was implanted. Quantification of the DA peak by comparison with an external standard showed that the 25 μ L sample contained 27.75 pg of DA.