As the CRO Flies
CAPSULES
Contract Analytical Procedures and Services
April 2006
601

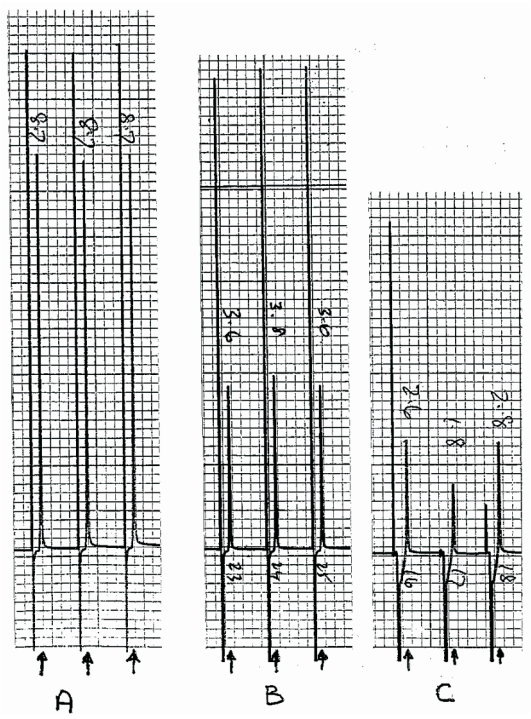
# $H_2O_2$:
# Determination of $H_2O_2$ in Blood, Dialysate and Ultrafiltrate

$H_2O_2$ concentration is determined in blood, microdialysate and *in vivo* ultrafiltrate. Blood requires protein precipitation and dilution with mobile phase prior to injection, while dialysate and ultrafiltrate are directly injected. An LCEC system with a "wired" peroxidase electrode is used. Since dialysate/ultrafiltrate can be directly injected, automated on-line injection can be utilized.

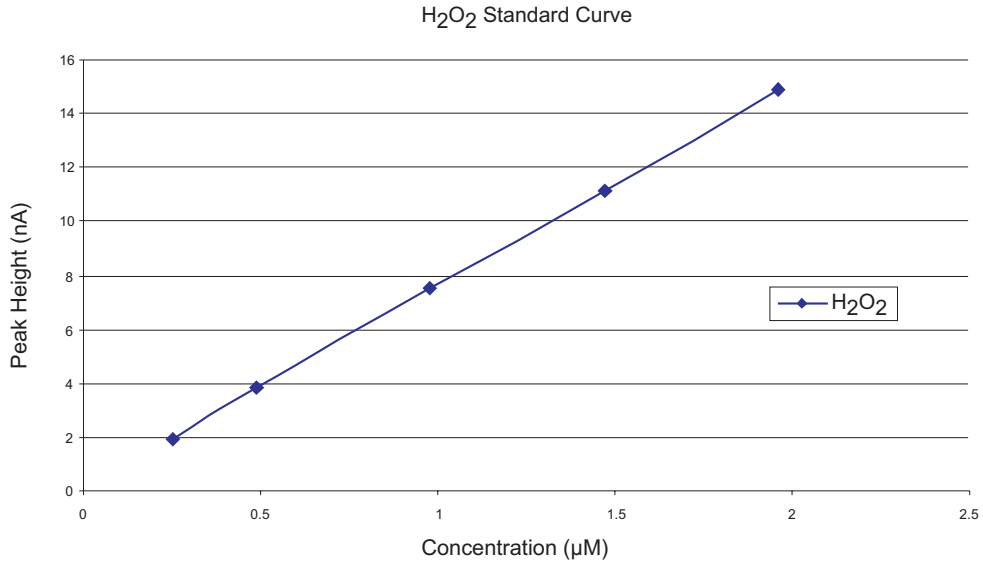
The mobile phase is phosphate buffer, pH 7.0 with ProClin added as bactericide, optimized for detection. A redox polymer film containing horseradish peroxidase is coated on the surface of a glassy carbon electrode. The redox polymer electrically "wires" the peroxidase to the electrode. This modified-electrode is selective for the reduction of $H_2O_2$ (*www.bioanalytical.com/products/lc/perox.html*) . External standards are used to quantify samples. Lower limit of quantitation is 25 nM (1 ppb) using the epsilon amperometric detector. Proper blanks are critical since water exposed to $O_2$ results in a time dependent positive response for peroxide. See:

*www.bioanalytical.com/info/poster/pdf/CBK-11.pdf*
*www.currentseparations.com/issues/19-2/19-2b.pdf*
*Capsules 113:*
*Detection of Hydrogen Peroxide in Biological Samples*
*Capsules 128:*
*Detection of Hydrogen Peroxide ($H_2O_2$) in Water*

If you have a need to determine $H_2O_2$ in any matrix, simple or otherwise, contact BASi (*www.bioanalytical.com/products/equote.html*) for a quote.




A. 10 µL injection of 0.98 µM $H_2O_2$ standard in Ringers
B. 10 µL injection of dialysate from mouse hippocampus
C. 10 µL injection of dialysate from rat liver

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