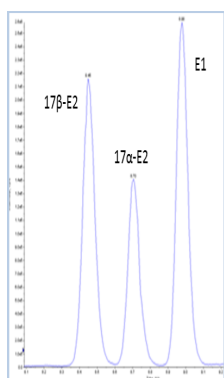
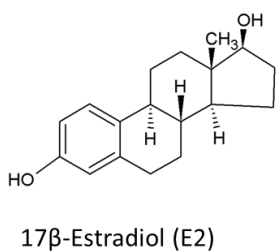
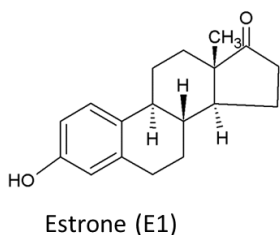


**Bioanalytics, Metabolomics and Pharmacokinetics  
Shared Resource (BMPK)**

**Estrogens in Human Serum**

**(Sensitivity: 2.00 pg/mL for E1 and 1.00 pg/mL for E2)**

BMPK has validated a highly sensitive liquid chromatographic tandem mass spectral assay (LC-MS/MS) for the analysis of estrone (E1) and 17β-estradiol (E2). These steroidal sex hormones are secreted in both males and females and exhibit a wide range of physiological activity from development and regulation of the female reproductive system and secondary sex characteristics to gene regulation (genomic effects) and cell signaling (epigenomic effects) via estrogen receptors ERα and ERβ. The validated method was applied to the analysis of 823 serum samples obtained during a 5 year flaxseed study of postmenopausal women (performance data shown below). The assay was also adapted to the analysis of heparinized human plasma and breast tissue (benign and malignant) samples examining the mechanistic response of tamoxifen in a breast cancer study.



Specifications and Performance	
<b>Matrix:</b>	Human Serum
<b>Required Volume:</b>	600 μL
<b>Preparation Procedure:</b>	Solid Phase Extraction
<b>HPLC Column:</b>	C18 <sup>+</sup>
<b>Mobile Phase:</b>	Acetonitrile with Acetic Acid
<b>Flow Rate:</b>	300 μL/min
<b>Detection Type:</b>	Tandem Mass Spectral (MS/MS)
<b>Calibration Range:</b>	2.00 to 250 pg/mL for E1 1.00 to 250 pg/mL for E2
<b>QC Concentrations:</b>	6.00, 30.0 and 180 pg/mL for E1 3.00, 30.0 and 180 pg/mL for E2
<b>Calibrator Accuracy:</b>	100% (97.3 - 106%; n=14) for E1 100% (97.4 - 102%; n=13) for E2
<b>Calibrator Precision:</b>	3.26% CV (1.70 - 5.06%; n=14) for E1 3.17% CV (1.74 - 5.36%; n=13) for E2
<b>QC Accuracy:</b>	92.8% (91.1 - 94.6%; n=40) for E1 96.9% (96.2 - 98.3%; n=37) for E2
<b>QC Precision:</b>	5.42% CV (4.06 - 7.67%; n=40) for E1 4.78% CV (2.92 - 6.54%; n=37) for E2

BMPK offers a wide range of bioanalytical and PK/PD modeling services to assist investigators in their basic research, preclinical, and clinical study objectives.

For information on services and pricing, contact [Joshua Prey, MS](mailto:Joshua.Prey@RoswellPark.org), Research Project Administrator at (716) 845-3313 or [Joshua.Prey@RoswellPark.org](mailto:Joshua.Prey@RoswellPark.org).

