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## Development and validation of a sensitive UPLC-MS/MS assay for the quantitation of corticosterone in rat plasma

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To examine the corticosterone levels as a marker of stress, a simple, rapid, sensitive and reliable ultra-pressure liquid chromatography coupled with tandem mass spectrometry method was developed and validated for the determination of corticosterone in rat plasma. After simple protein precipitation with acetonitrile, the corticosterone and the combined internal standards (corticosterone-d8) were separated on an Acquity UPLC BEH C18 column (50 mm×2.1 mm, 1.7 μm, Waters) using a mobile phase of MilliQ water with 0.1% formic acid (phase A) and acetonitrile with 0.1% formic acid (phase B) with gradient elution in 2 minutes. Mass spectrometric detection was conducted by Turbo spray IonDrive™ in positive ion multiple reaction monitoring modes using AB Sciex Triple Quad 6500 system. Linear calibration curves were obtained for the following concentration range: 5-1000 ng/ml. Intra-day and inter-day accuracy and precision were within the acceptable limits of ±20% at all of the concentrations. No carryover or ion suppression was observed. The assay is used in our laboratory to examine corticosterone levels as a marker of stress in rats.

### Biography

Lei Yang received her PhD degree in 2007 from the University of Tennessee Health Science Center. She is a research lab specialist in High Throughput Analytical Chemistry Center in Department of Chemical Biology and Therapeutics, St. Jude Children's Research Hospital. Her major duties include PK/PD analysis and in vitro ADME assays, which are enclosed permeability, solubility, microsome/plasma stability, plasma protein binding, and et al. She has published more than 25 papers in reputed journals.

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