

Posaconazole Test Information

Posaconazole (Noxafil[®]) is a triazole antifungal compound used to treat fungal infections in highly immunocompromised patients. Patient variability in the pharmacokinetics of Posaconazole supports quantitative monitoring of blood drug levels, particularly due to its variable absorption. Monitoring trough levels of Posaconazole is suggested in patients with suboptimal nutritional intake (and therefore requiring food and liquid nutritional supplementation), or in patients with gastrointestinal diseases such as mucositis, diarrhea, vomiting, or Graft-versus-host disease (GVHD). Monitoring the trough level of Posaconazole is also suggested in patients treated with other drugs that either induce or inhibit CYP450 isoenzymes or that serve as substrates for these isoenzymes. Results may be useful clinically to determine if current dosing levels have achieved adequate therapeutic concentrations of Posaconazole.

Our lab offers a rapid and robust liquid chromatography-tandem mass spectrometry (LC-MS/MS) assay for the determination of Posaconazole concentrations in human plasma. Posaconazole is extracted from plasma by simple protein precipitation followed by centrifugation. Chromatographic separation and quantitative analysis is performed using reverse-phase HPLC-MS/MS method. For more information, call the lab at 513-636-4203.

Sample Type:

Plasma (EDTA or Sodium/Lithium heparin collection tubes)

Volume:

1 mL

0.5 mL (minimum)

Specimen Preparation:

Spin/pour off, freeze.

Unacceptable Specimens:

Hemolyzed or lipemic specimens; serum separator tubes (SST).

Stability:

Refrigerated: 48 hours

Frozen: 6 months

Methodology:

Liquid chromatography-tandem mass spectrometry (LC-MS/MS)

Reporting Units:

Quantitative: mcg/mL

LC-MS/MS Calibration Range:

0.05 – 5 mcg/mL

Therapeutic Range (trough):

>0.7 mcg/mL

Shipping Conditions:

Frozen (dry ice), next day.

Testing Schedule:

Wed, 1st Shift (for testing outside this schedule, please call 513-636-4203). **Turnaround time:** 1-10 days.

CPT Code:

80299

Contact Information:

Clinical Mass Spectrometry

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Website: <https://www.cincinnatichildrens.org/mass-spec>

Shipping Address:

Clinical Mass Spectrometry Facility, MLC 7019

Division of Pathology and Laboratory Medicine

Cincinnati Children's Hospital Medical Center

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References:

1. Ashbee HR, Barnes RA, Johnson EM, et al. Therapeutic drug monitoring (TDM) of antifungal agents: guidelines from the British Society for Medical Mycology, *J. Antimicrob Chemother* 2014, 69: 1162-76.
2. Dekkers BG, Bakker M, van der Elst KC, Sturkenboom MG, Veringa A, Span LF, Alffenaar JC. Therapeutic Drug Monitoring of Posaconazole: an Update. *Curr Fungal Infect Rep.* 2016;10:51-61.
3. Rochat B, Pascual A, Pesse B et al. Ultra-Performance Liquid Chromatography Mass Spectrometry and Sensitive Bioassay Methods for Quantification of Posaconazole Plasma Concentrations after Oral Dosing. *Anitmicrob. Agents Chemother.*, 2010; 12: 5074-5081.