



## Antimycotics in Serum/Plasma LC-MS/MS Analysis Kit

The incidence of invasive fungal infections has been increasing due to the widespread clinical use of high-dose chemotherapy drugs and immunosuppressive agents. Fungal infections are associated with higher mortality than other infections due to their rapid progression. To achieve therapeutic efficacy and simultaneously avoid toxicity, therapeutic drug monitoring (TDM) has increasingly been adopted for antifungal agents with narrow therapeutic indices. Several methods have been developed for the quantitation of antimycotics in biological fluids. High-performance liquid chromatography based on MS/MS and UV detection are the most widely used. To maximize the clinical benefit of TDM, accurate quantitative results with short turnaround times are required.

### Highlights of the Analysis Kit

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Simultaneous measurement the concentrations of 8 antimycotic agent



Total run time is 10.5 min.



Just a few pipetting steps for the sample treatment-protein precipitate and shoot approach-  
no need for derivatization



Each agent safeguarded by its own internal standard



Consuming small volume of patient's sample



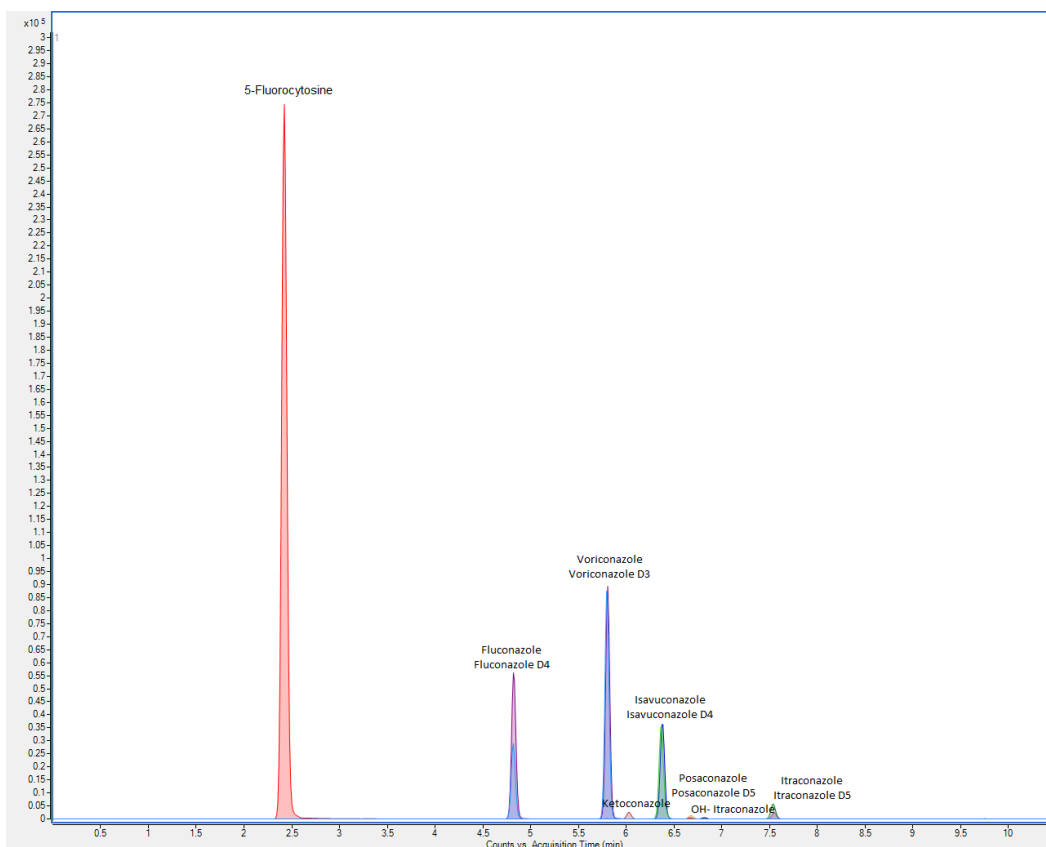
Long life span of HPLC column

Parameters			
5-Fluorocytosine Fluconazole	Voriconazole Ketoconazole	Isavuconazole Posaconazole	Hydroxy Itraconazole Itraconazole
Sample Type			
Serum/Plasma			

### Sample Preparation

1	Pipette 50 µL of serum/plasma sample into a microcentrifuge tube
2	Add 30 µL of internal standard solution and vortex for 5 sec.
3	Add 500 µL of Reagent-1, vortex for 5 sec. then, centrifuge at 4000 rpm for 5 min.
4	Decant the clear supernatant into HPLC vial prior to injection

### Example Chromatogram



Total ion chromatogram of the analysis

## Method Performance

All results were obtained using Agilent 6465 TQ (Ultivo) instrument

Analytes	LOQ (mg/L)	Linearity (mg/L)	Recovery (%)	Repeatability (%CV)
5-Fluorocytosine	0.59	0.59 - 117.0	100	2.22
Fluconazole	0.09	0.09 - 14.60	103	1.03
Voriconazole	0.08	0.08 - 10.70	96	2.32
Ketoconazole	0.13	0.13 - 3.10	92	2.24
Isavuconazole	0.05	0.05 - 8.89	105	0.57
Posaconazole	0.04	0.04 - 3.28	109	1.75
Hydroxy Itraconazole	0.06	0.06 - 4.74	102	1.73
Itraconazole	0.03	0.03 - 6.02	114	1.59



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