Mycophenolate (MPA)

General	
• Class of the drug:	Immunosuppressants
• Synonym(s):	Mycophenolic acid
• Common trade name(s) in Switzerland:	CellCept® , Myfortic®
• Conversion factors:	*mg/l x 3.12 = µmol/l* *µmol/l x 0.32 = mg/l*
Clinical pharmacology	
• Indications for TDM:	Individual dose adaptation, symptoms of rejection or toxicity
• Protein binding:	97 - 99 % (mainly to albumin)
• Elimination half-life:	17 h
• Volume of distribution:	4 l/kg
• Metabolism:	
- Main metabolic pathways:	Glucuroconjugation to form 7-O-MPA-glucuronide (MPAG); 2 other metabolites are 7-O-glucoside-MPA and acylglucuronide-MPA (AcMPAG)
- Active metabolite(s)?	AcMPAG
- Inhibitor or inducer of the cytochrome P450 system?	No
- Other significant pharmacokinetic interactions:	No
• Elimination of parent drug:	Mainly hepatic
• Typical therapeutic range:	Dependent on combination therapy and indication
• Potentially toxic concentration:	> 10 mg/l
Pre-analytics	
• Time to steady-state since beginning of treatment or change of posology:	~ 3 days
• Time for blood sampling:	Before next dose at steady state or at different time points for the determination of the area-under-the-curve (AUC)
• Type(s) of sample:	Plasma on EDTA
• Stability:	5 days at 25°C

Analytics	
• Position(s) in the analysis list/Method:	8634.01 Immunoassay 8634.02 HPLC/GC 8634.03 LC-MS/GC-MS
Remarks	Mycophenolate mofetil (MMF) is a prodrug for the active MPA. Most immunoassays cross react with the active metabolite. The AUC correlates better to the inhibition of the inosine monophosphate dehydrogenase (IMPDH) than the trough level.
References	•*Compendium suisse des médicaments, Documed, 2005* •*Shaw LM et al., Clin. Biochem. 31 (1998) 317* •*Holt et al., Therap. Drug Monit. 24 (2002) 59*