Lamotrigine

General	
• Class of the drug:	Antiepileptics
• Synonym(s):	
• Common trade name(s) in Switzerland:	Lamictal®
• Conversion factors:	*mg/l x 3.90 = µmol/l* *µmol/l x 0.256 = mg/l*
Clinical pharmacology	
• Indications for TDM:	Individual dose adaptation, verification of compliance
• Protein binding:	55 %
• Elimination half-life:	25 h (60 h in presence of valproate, 15 h in presence of phenytoin, carbamazepine or phenobarbital)
• Volume of distribution:	1-1.4 l/kg
• Metabolism:	
- Main metabolic pathways:	N-glucuronidation
- Active metabolite(s)?	None
- Inhibitor or inducer of the cytochrome P450 system?	Not known
- Other significant pharmacokinetic interactions:	• Coadministration with valproic acid results in decreased elimination of lamotrigine • Coadministration with enzyme inducing drugs, including carbamazepine, phenytoin and phenobarbital, results in increased elimination
• Elimination of parent drug:	Mainly hepatic Renal 10%
• Typical therapeutic range:	3 - 14 mg/l (12 - 56 µmol/l)
• Potentially toxic concentration:	Not known
Pre-analytics	
• Time to steady-state since beginning of treatment or change of posology:	4 - 5 days
• Time for blood sampling:	Before next dose at steady state
• Type(s) of sample:	Serum or plasma

• Stability:	1 week at 4°C
Analytics	
• Position(s) in the analysis list/Method:	8630.02 HPLC/GC 8630.03 LC-MS/GC-MS
Remarks	None
References	• *Morris et al., Br. J. Clin. Pharmacol. 46 (1998) 547* • *Morris et al., Ther. Drug Monit. 26 (2004) 626* • *Johannessen et al., Ther. Drug Monit. 25 (2003) 347* • *Neels et al., Clin. Chem. Lab. Med. 42 (2004) 1228* • *Arzneimittelkompendium der Schweiz 2005*