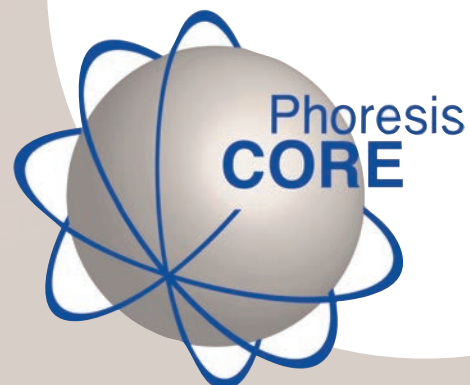


Sebia Focus - N°8

July 2013



Peak quantification in urines

The quantification of the monoclonal peak is one central criteria for the evaluation of the response to treatment in patients with monoclonal gammopathies^{1,2}.

Sebia has recently developed a tool for urine monoclonal peak quantification on its Phoresis CORE software on both agarose gel and capillary electrophoresis technologies. The technique consists of the relative quantification in percentage of the monoclonal peak.

Total proteinuria concentration in g/24 h or g/L quantified with routine techniques, allows to obtain an estimation of the monoclonal peak concentration.

As for the quantification of the monoclonal peak in serum, two quantification methods are proposed by Phoresis CORE software for the quantification of urine monoclonal peak: tangential quantification (valley to valley) or quantification from the baseline to the top.

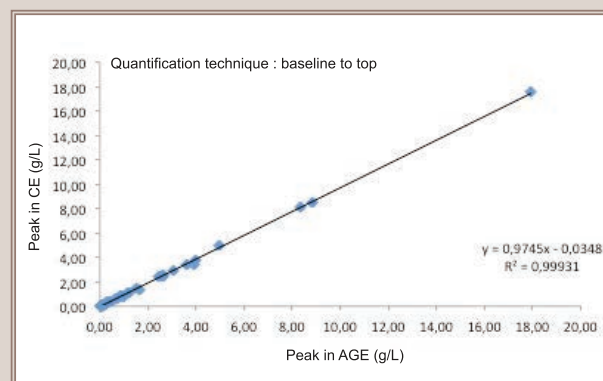
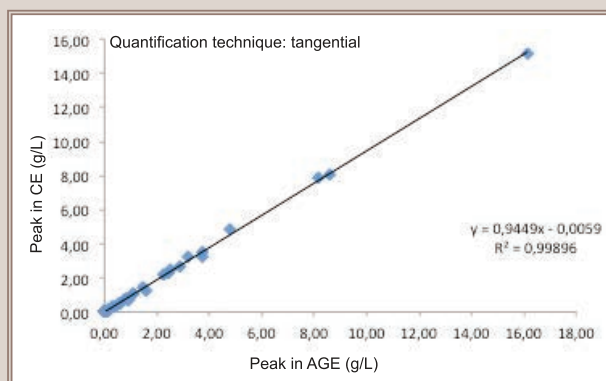
Specifications required for the quantification of urinary peak:

	Urine electrophoresis on agarose gel	Urine capillary electrophoresis
Instruments	HYDRASYS / HYDRASYS LC / HYDRASYS 2	CAPILLARYS 2 / CAPILLARYS 2 Flex Piercing
Densitometer	HYRYS 2 / GELSCAN	N/A
Kits	HYDRAGEL 7 HR (cat.nb.: 4102) HYDRAGEL 15 HR (cat.nb.: 4122)	CAPILLARYS/MINICAP URINE (cat.nb.: 2013)
Programs	HR3	URINE
Software	PHORESIS CORE 8.51 release and the following	PHORESIS CORE 8.61 release and the following

¹ Criteria for diagnosis, staging, risk stratification and response assessment of multiple myeloma. Kyle and Rajkumar, *Leukemia* (2009) 23, 3–9; doi:10.1038/leu.2008.291

² Consensus recommendations for standard investigative workup: report of the International Myeloma Workshop Consensus Panel. Dimopoulos, et al. *Blood*. 2011; 117(18):4701-4705

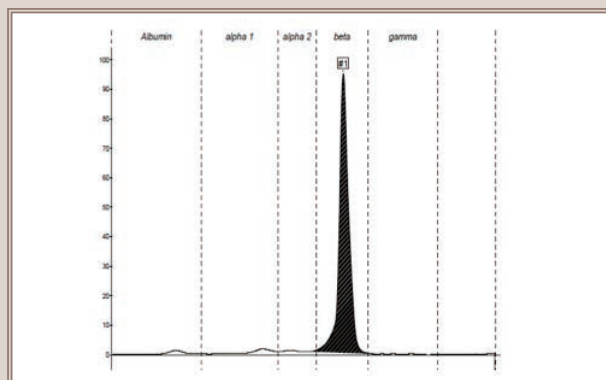
Correlation of the urine peak quantification between Agarose Gel Electrophoresis (AGE) and Capillary Electrophoresis (CE)



Examples of quantification of Bence Jones Protein

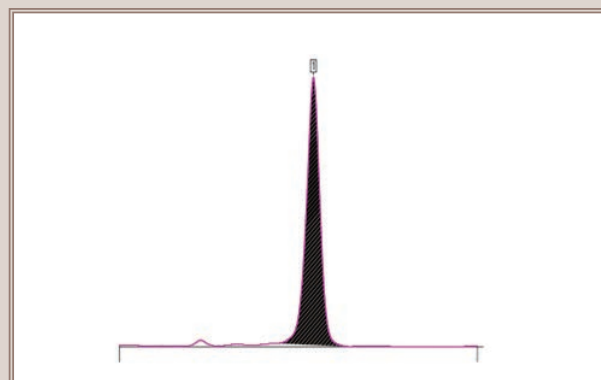
Example 1: Overload proteinuria with Bence Jones Kappa quantified by capillary electrophoresis as 1.03 g/24 h and by agarose gel electrophoresis as 1.1 g/24 h.

Capillary electrophoresis



Peak	%	g/24h
#1	84.3	1.03

Agarose gel electrophoresis

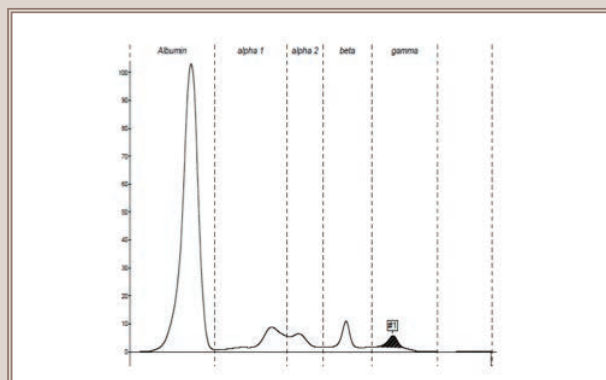


Peak	%	g/24h
1	88.7	1.1

Proteinuria: 1.22 g/24h

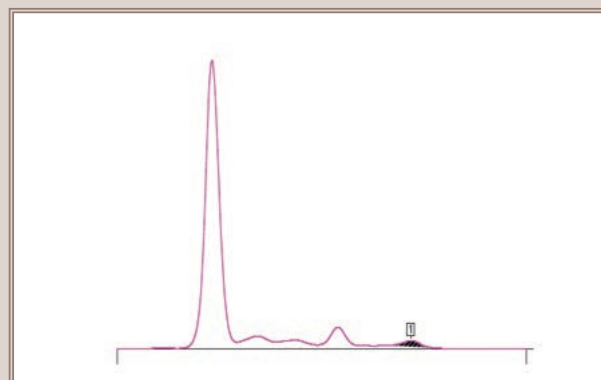
Example 2: Glomerular or mixed Proteinuria with Bence Jones lambda protein quantified by capillary electrophoresis as 0.06 g/24 h and by agarose gel electrophoresis as 0.1 g/24 h.

Capillary electrophoresis



Peak	%	g/24h
#1	1.9	0.06

Agarose gel electrophoresis



Peak	%	g/24h
1	1.8	0.1

Proteinuria 2.92 g/24h