

		cells/ml urine (counted)																	
		NTC	12	10	9	8	7	6	5	4	3	2	1						
<i>E. coli</i> , KPC-2	Qiagen 1	SNP																	
		Sense	814	0.335	0.866	0.937	0.369	0.314	0.234	0.322	0.243	0.228	0.204	0.311					
		Sense	716	0.593	0.987	0.919	0.671	0.641	0.648	0.505	0.328	0.294	0.296	0.379					
		Anti-Sense	308	0.279	0.431	0.659	0.274	0.522	0.213	0.126	0.063	0.088	0.098	0.117					
		Anti-Sense	147	0.116	0.191	0.417	0.094	0.096	0.080	0.051	0.023	0.013	0.024	0.062					
		Sense	814	0.391	0.973	0.843	0.385	0.343	0.302	0.192	0.028	0.044	0.042	0.148					
		Anti-Sense	716	0.911	0.625	0.804	0.906	0.798	0.628	0.621	0.202	0.173	0.133	0.514					
		Anti-Sense	308	0.043	0.203	0.781	0.029	0.049	0.040	0.023	0.016	0.022	0.020	0.082					
		Anti-Sense	147	0.150	0.709	0.621	0.120	0.112	0.087	0.056	0.064	0.100	0.128	0.151					
		average absolute PM signal intensity	Sense	814	210	32	25	267	230	278	1066	5289	10981	8808	10731				
		average absolute PM signal intensity	Sense	716	138	15	20	132	136	122	289	1879	10726	10037	13671				
		average absolute PM signal intensity	Sense	308	224	36	28	199	237	273	724	9118	39880	42658	37248				
		average absolute PM signal intensity	Sense	147	249	112	56	327	310	409	990	7191	16559	14959	15814				
		average absolute PM signal intensity	Anti-Sense	814	74	15	16	77	68	90	294	7305	22450	22961	10385				
		average absolute PM signal intensity	Anti-Sense	716	11	17	16	10	11	13	39	172	490	576	521				
		average absolute PM signal intensity	Anti-Sense	308	716	105	57	874	530	702	3432	11591	14388	13681	14688				
		average absolute PM signal intensity	Anti-Sense	147	306	90	46	382	377	536	2129	20129	57615	61611	58895				
		Variant Identified	Sense												KPC-2	KPC-2	KPC-2	KPC-2	
		Variant Identified	Anti-Sense												KPC-2	KPC-2	KPC-2	KPC-2	
		Result	Variant Identified	Sense + Anti-Sense											KPC-2	KPC-2	KPC-2	KPC-2	
																		◀---	
<i>E. coli</i> , KPC-2	Qiagen 2	CV (if SD > 30% of PM)	Sense	814														77.06	
		Sense	716																
		Sense	308																
		Sense	147																
		Anti-Sense	814															86.06	
		Anti-Sense	716	92.28	48.62														
		Anti-Sense	308																
		Anti-Sense	147																
		average absolute PM signal intensity	Sense	814	0.928	0.839	0.978	0.717	0.486	0.924	0.211	0.318	0.216	0.296	0.206				
		average absolute PM signal intensity	Sense	716	0.809	0.871	0.998	0.828	0.869	0.956	0.291	0.285	0.236	0.254	0.383				
		average absolute PM signal intensity	Sense	308	0.979	0.501	0.620	0.686	0.462	0.946	0.107	0.046	0.038	0.041	0.041				
		average absolute PM signal intensity	Sense	147	0.519	0.356	0.391	0.274	0.332	0.593	0.041	0.013	0.014	0.024	0.025				
		average absolute PM signal intensity	Anti-Sense	814	0.967	0.993	0.811	0.733	0.177	0.728	0.065	0.045	0.037	0.042	0.076				
		average absolute PM signal intensity	Anti-Sense	716	0.945	0.955	0.902	0.634	0.981	0.751	0.603	0.680	0.613	0.572	0.423				
		average absolute PM signal intensity	Anti-Sense	308	0.837	0.247	0.231	0.338	0.281	0.807	0.065	0.022	0.025	0.031	0.026				
		average absolute PM signal intensity	Anti-Sense	147	0.696	0.513	0.584	0.843	0.352	0.867	0.131	0.069	0.051	0.055	0.038				
		Variant Identified	Sense												KPC-2	KPC-2	KPC-2	KPC-2	
		Variant Identified	Anti-Sense												KPC-2	KPC-2	KPC-2	KPC-2	
		Result	Variant Identified	Sense + Anti-Sense											KPC-2	KPC-2	KPC-2	KPC-2	
																		◀---	
<i>E. coli</i> , KPC-2	Norgen 1	CV (if SD > 30% of PM)	Sense	814														46.78	
		Sense	716																
		Sense	308																
		Sense	147																
		Anti-Sense	814															42.17	
		Anti-Sense	716																
		Anti-Sense	308																
		Anti-Sense	147																
		average absolute PM signal intensity	Sense	814	29	19	17	17	286	929	5427	8187	9013	19171					
		average absolute PM signal intensity	Sense	716	73	80	56	43	74	201	1311	2156	3723	13378					
		average absolute PM signal intensity	Sense	308	66	96	50	45	187	449	4834	7181	22369	37716					
		average absolute PM signal intensity	Sense	147	68	73	59	63	479	920	5807	6302	9992	12950					
		average absolute PM signal intensity	Anti-Sense	814	71	43	27	28	70	253	3630	4707	13150	21938					
		average absolute PM signal intensity	Anti-Sense	716	9	11	7	7	9	24	100	123	245	468					
		average absolute PM signal intensity	Anti-Sense	308	28	35	26	33	486	1489	7722	10566	9948	18253					
		average absolute PM signal intensity	Anti-Sense	147	67	72	57	53	393	1270	9946	14604	31406	61306					
		Variant Identified	Sense												KPC-2	KPC-2	KPC-2	KPC-2	
		Variant Identified	Anti-Sense												KPC-2	KPC-2	KPC-2	KPC-2	
		Result	Variant Identified	Sense + Anti-Sense											KPC-2	KPC-2	KPC-2	KPC-2	
																		◀---	
<i>E. coli</i> , KPC-2	Norgen 2	CV (if SD > 30% of PM)	Sense	814														33.77	
		Sense	716																
		Sense	308																
		Sense	147																
		Anti-Sense	814															52.20	
		Anti-Sense	716															54.74	
		Anti-Sense	308																
		Anti-Sense	147																
		average absolute PM signal intensity	Sense	814	112	276	24	989	104	2382	4031	4342	4603	10254					
		average absolute PM signal intensity	Sense	716	121	121	86	99	101	539	2052	3889	4727	9112					
		average absolute PM signal intensity	Sense	308	170	114	80	109	125	1288	7027	17728	24188	28409					
		average absolute PM signal intensity	Sense	147	189	116	94	132	168	2389	5830	9064	8668	12976					
		average absolute PM signal intensity	Anti-Sense	814	63	62	1018	39	55	590	5520	11063	12024	16531					
		average absolute PM signal intensity	Anti-Sense	716	13	13	10	7	27	64	176	245	303	427					
		average absolute PM signal intensity	Anti-Sense	308	320	194	82	292	453	6297	8423	8303	7476	13234					
		average absolute PM signal intensity	Anti-Sense	147	201	146	92	184	237	3121	12594	22933	22711	40751					
		Variant Identified	Sense												KPC-2	KPC-2	KPC-2	KPC-2	
		Variant Identified	Anti-Sense												KPC-2	KPC-2	KPC-2	KPC-2	
		Result	Variant Identified	Sense + Anti-Sense											KPC-2	KPC-2	KPC-2	KPC-2	
																		◀---	
<i>E. coli</i> , K																			

**Figure S3: Identification of variant KPC-2 (in E. coli) from spiked urine samples.**

Overview on array data obtained after DNA extraction from spiked urine samples (10 dilution steps + no template control (NTC)) followed by hybridization. Listed are the average absolute perfect match (PM) signal intensities for every SNP position of sense and anti-sense probes. In addition the corresponding  $MM_{max}/PM$  ratios are presented for every SNP position. Once the threshold is reached ( $MM_{max}/PM > 0.7$ ) the probes are not used for discrimination anymore (marked in dark grey). The same applies for the average absolute PM signal. Once the signal intensity is below the LOD, the probe set is not used for discrimination anymore, also shown in dark grey. Furthermore, the standard deviation (SD) is monitored and a probe set is flagged once the SD is larger than 30% of the PM signal, shown in light grey. The probe sets which fulfil all criteria are then used for discrimination and the identified variant is shown at the bottom of the table. This is shown for extractions carried out with Qiagen and Norgen in duplicates. In all cases variant KPC-2 was correctly identified to a concentration of  $1.6 \times 10^4$  cells / ml urine. A summary of the final results is shown in Figure 4.