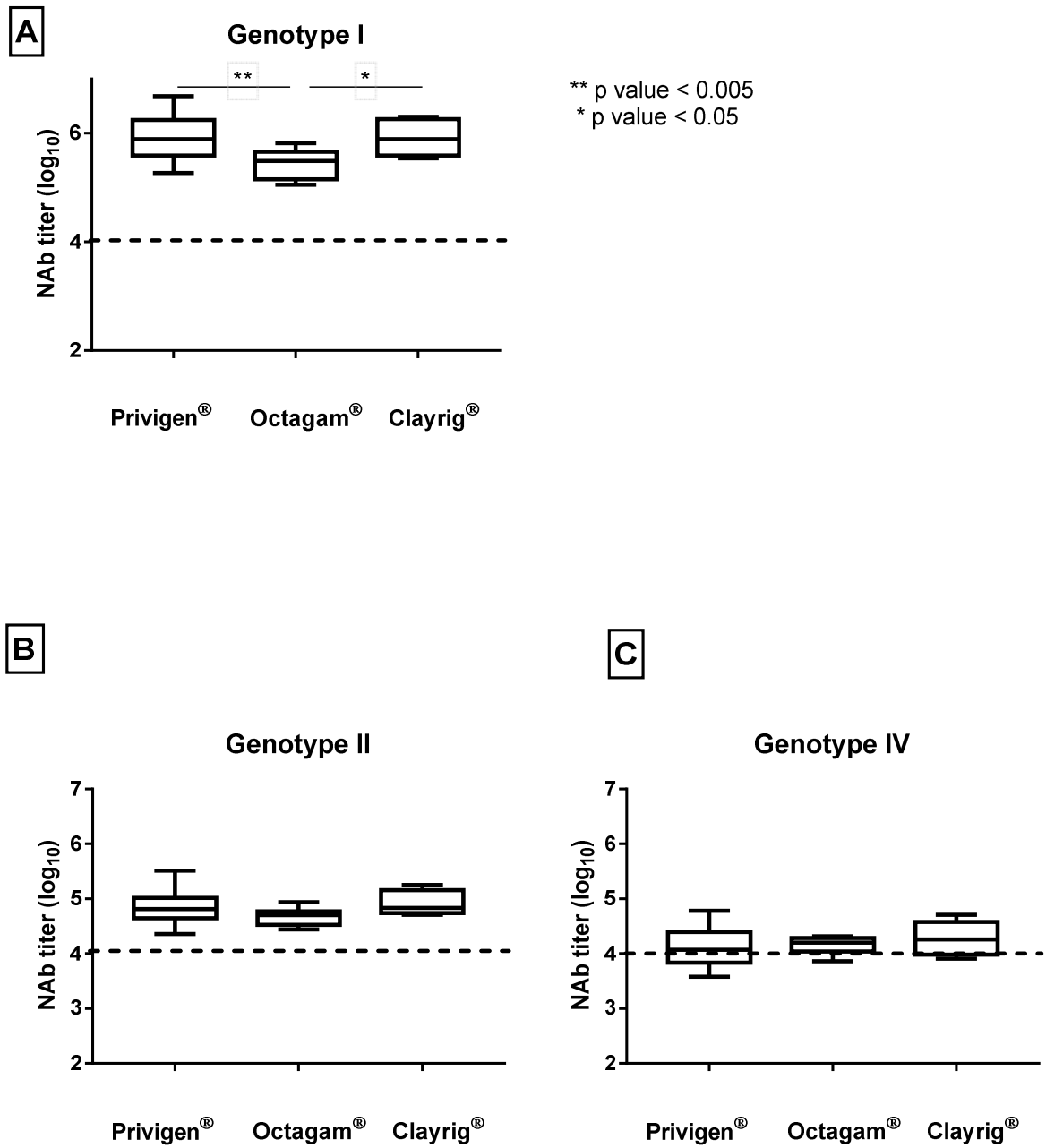
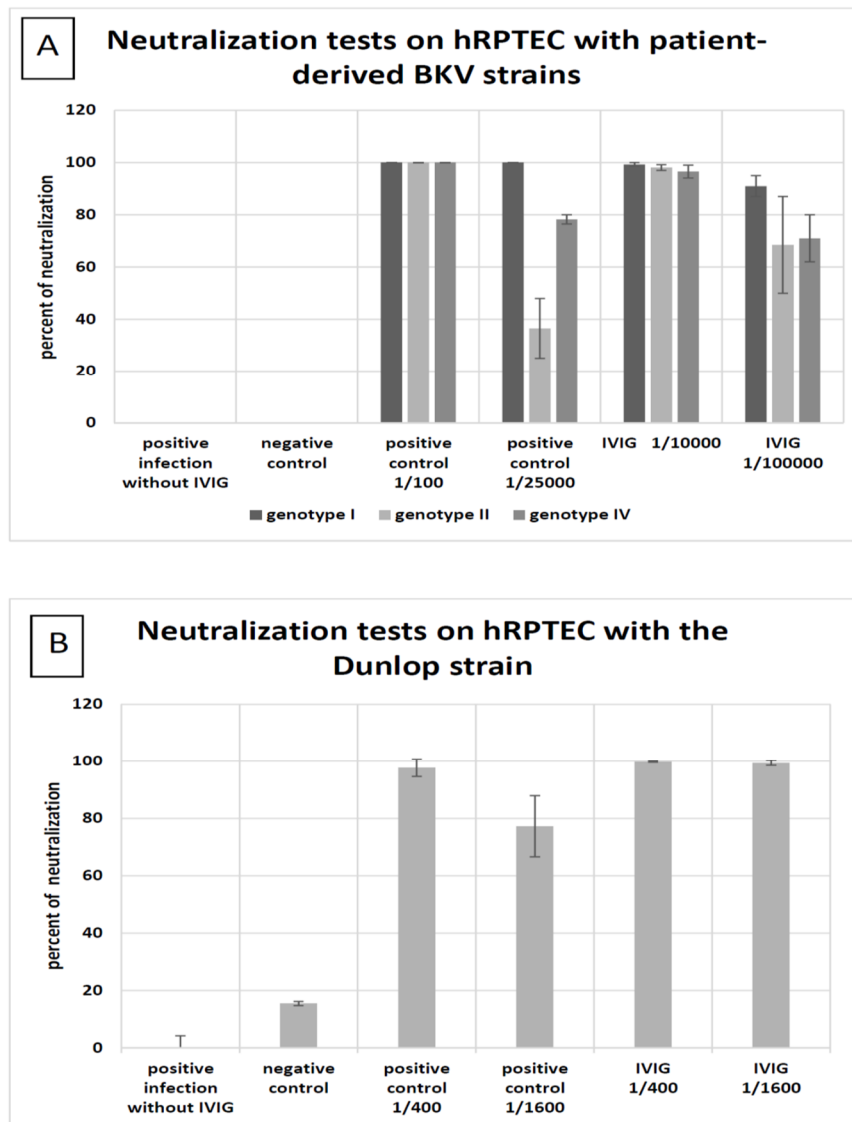


- 1 **Figure S1:** Mean BKPyV NAb titers against BKPyV genotype I, II and IV according to the
- 2 IVIg preparation



3
4

5 **Figure S2:** Neutralization assays of infection performed on primary cells (human Renal
6 Proximal Tubule Epithelial Cells, hRPTEC) using infectious BKPyV strain.



7

8 IVIg preparation tested: Privigen®.

9 The negative control consisted of an anti-BKPyV-negative serum; the positive control

10 consisted of a pool of >100 anti-BKPyV positive sera).

11

12

13 **Table S1:** BKPyV NAb titers (\log_{10} IC50) measured in Privigen[®] aliquots of 25 lots.

	Genotype I Mean NAb titer \log_{10} (+/- standard deviation)	Genotype II Mean NAb titer \log_{10} (+/- standard deviation)	Genotype IV Mean NAb titer \log_{10} (+/- standard deviation)
Lot 4326200074	6.1 (+/- 0.12)	5.3 (+/- 0.59)	4.2 (+/-0.20)
Lot 4326200082	6.3 (+/- 0.27)	4.7 (+/- 0.28)	4.0 (+/- 0.18)
Lot 4326300089	6.0 (+/- 0.12)	4.7 (+/- 0.38)	4.2 (+/- 0.54)
Lot 4326300099	6.4 (+/- 0.18)	5.0 (+/- 0.22)	3.6 (+/- 0.05)
Lot 4326300118	6.4 (+/- 0.33)	5.5 (+/- 0.51)	4.2 (+/- 0.44)
Lot 4372000012	5.6 (+/- 0.12)	5.2 (+/- 0.86)	3.9 (+/- 0.33)
Lot 4372000014	6.3 (+/- 0.32)	4.7 (+/- 0.66)	3.7 (+/- 0.17)
Lot 4372000021	5.7 (+/- 0.26)	4.9 (+/- 0.21)	3.9 (+/- 0.16)
Lot 4372000024	5.6 (+/- 0.14)	4.4 (+/- 0.64)	3.8 (+/- 0.12)
Lot 4326300092	5.9 (+/- 0.52)	4.7 (+/- 0.38)	4.4 (+/- 0.39)
Lot 4326300098	5.5 (+/- 0.19)	4.4 (+/- 0.30)	4.3 (+/- 0.39)
Lot 4326300058	5.8 (+/- 0.20)	5.1 (+/- 0.51)	3.8 (+/- 0.29)
Lot 4372000013	5.6 (+/- 0.13)	4.5 (+/- 0.16)	4.4 (+/- 0.18)
Lot 4326300084	5.9 (+/- 0.06)	4.8 (+/- 0.20)	3.8 (+/- 0.21)
Lot 4372000011	5.4 (+/- 0.10)	4.9 (+/- 0.52)	3.9 (+/- 0.16)
Lot 4326200064	5.9 (+/- 0.39)	5.0 (+/- 0.25)	4.7 (+/- 0.25)
Lot 4326300096	5.3 (+/- 0.11)	4.7 (+/- 0.23)	3.8 (+/- 0.34)
Lot 4372000023	6.7 (+/- 0.38)	5.1 (+/- 0.26)	4.8 (+/- 0.20)
Lot 4372000042	6.4 (+/- 0.38)	5.0 (+/- 0.15)	4.7 (+/- 0.24)
Lot 4326200060	6.0 (+/- 0.40)	4.8 (+/- 0.23)	4.0 (+/- 0.24)
Lot 4326200063	5.8 (+/- 0.29)	4.6 (+/- 0.15)	3.9 (+/- 0.21)
Lot 4372000040	5.7 (+/- 0.12)	4.6 (+/- 0.16)	4.5 (+/- 0.26)
Lot 4372000041	5.3 (+/- 0.06)	4.4 (+/- 0.02)	4.1 (+/- 0.15)
Lot 4372000028	6.6 (+/- 0.33)	5.6 (+/- 0.03)	4.3 (+/- 0.34)
Lot 4372000029	6.1 (+/- 0.30)	5.0 (+/- 0.28)	4.5 (+/- 0.19)
Median	5.9	4.8	4.1
IQR	5.6-6.2	4.6-5.0	3.8-4.4
Mean	5.9 (+/- 0.39)	4.9 (+/- 0.33)	4.1 (+/- 0.34)
P Value	≥ 0.07	≥ 0.25	> 1.0
Batch-to-batch variation	6.55%	6.5%	8%

15 **Table S2:** BKPyV NAb titers (\log_{10} IC50) measured in Octagam[®] aliquots of 9 lots.

	Genotype I Mean Nab titer \log_{10} (+/- standard deviation)	Genotype II Mean Nab titer \log_{10} (+/- standard deviation)	Genotype IV Mean Nab titer \log_{10} (+/- standard deviation)
Lot A513B8431	5.5 (+/- 0.20)	4.7 (+/- 0.26)	4.2 (+/- 0.07)
Lot B350B8442	5.1 (+/- 0.36)	4.5 (+/- 0.23)	4.3 (+/- 0.69)
Lot B408C8441	5.7 (+/- 0.50)	4.7 (+/- 0.27)	4.1 (+/- 0.14)
Lot B410C8442	5.1 (+/- 0.21)	4.6 (+/- 0.17)	4.0 (+/- 0.18)
Lot B439B8441	5.5 (+/- 0.26)	4.7 (+/-0.54)	4.2 (+/- 0.23)
Lot B439C8442	5.8 (+/- 0.11)	4.4 (+/- 0.15)	4.3 (+/- 0.21)
Lot B448A8441	5.6 (+/- 0.56)	4.8 (+/- 0.24)	4.3 (+/- 0.18)
Lot C427B8441	5.2 (+/- 0.12)	4.9 (+/- 0.52)	3.9 (+/- 0.30)
Lot B505B8441	5.2 (+/- 0.53)	4.6 (+/- 0.21)	4.2 (+/- 0.60)
Median	5.5	4.7	4.2
IQR	5.2-5.7	4.5-4.8	4.1-4.3
Mean	5.4 (+/- 0.28)	4.7 (+/- 0.16)	4.2 (+/- 0.16)
P Value	> 0.43	> 1.0	> 1.0
Batch-to-batch variation	4.93%	3.24%	3.39%

16

17

18 **Table S3:** BKPyV NAb titers (\log_{10} IC50) measured in Clairyg[®] aliquots of 9 lots.

	Genotype I Mean Nab titer \log_{10} (+/- standard deviation)	Genotype II Mean Nab titer \log_{10} (+/- standard deviation)	Genotype IV Mean Nab titer \log_{10} (+/- standard deviation)
Lot 15L04649	5.8 (+/- 0.21)	4.7 (+/- 0.10)	4.3 (+/- 0.41)
Lot 15L07118	5.6 (+/- 0.23)	4.8 (+/- 0.22)	3.9 (+/- 0.45)
Lot 15L07648	6.3 (+/- 0.79)	5.2 (+/- 0.41)	4.7 (+/- 0.52)
Lot 15L07892	5.6 (+/- 0.12)	5.3 (+/- 0.19)	4.5 (+/- 0.50)
Lot 16L02597	6.3 (+/- 0.65)	5.0 (+/- 0.03)	4.0 (+/- 0.19)
Lot 16L02598	6.1 (+/- 0.09)	4.7 (+/- 0.15)	4.0 (+/- 0.04)
Lot 16L04432	5.5 (+/- 0.31)	4.8 (+/- 0.05)	4.3 (+/- 0.22)
Lot 16L04714	5.9 (+/- 0.05)	4.8 (+/- 0.22)	4.1 (+/- 0.13)
Lot 16L06006	6.3 (+/- 0.12)	5.1 (+/- 0.25)	4.7 (+/- 0.25)
Median	5.9	4.8	4.3
IQR	5.6-6.3	4.7-5.2	4.0-4.6
Mean	5.9 (+/- 0.31)	4.9 (+/- 0.21)	4.3 (+/- 0.30)
P Value	≥ 0.31	≥ 0.60	≥ 0.40
Batch-to-batch variation	5.53%	4.53%	7.09%

19

20

21 **Table S4:** BKPyV genotype I NAb titers (\log_{10} IC50) measured during IVIG treatment.

Patients	IVIG regimen	D0	D1	D22	D23	D44	D45
Patient 1	SIDS	3.9	5.2	/	4.9	/	/
Patient 2	SIDS	3.0	4.1	3.4	4.6	3.5	3.9
Patient 3	SIDS	3.1	4.1	3.9	4.2	/	3.9
Patient 4	SIDS	2.8	4.8	4.0	4.4	4.0	4.1
Patient 5	SIDS	2.7	4.4	4.4	4.0	4.1	3.8
Patient 6	SIDS	3.9	4.7	4.3	4.9	4.5	4.3
Patient 7	SIDS	2.9	4.2	3.6	4.3	4.2	4.0
Patient 8	SIDS	2.6	4.4	3.8	4.5	4.6	3.7
Patient 9	SIDS	3.8	4.6	4.0	3.8	4.6	4.2
Patient 10	SIDS	3.7	4.1	3.9	4.0	/	/
Patient 11	SIDS	NEG.	3.9	3.8	3.9	/	3.8
Patient 12	SIDS	2.6	4.4	3.5	4.4	/	/
Patient 13	SIDS	3.7	4.4	3.8	4.5	3.8	/
Patient 14	SIDS	NEG.	3.6	/	4.0	/	/
Patient 15	SIDS	3.1	4.2	3.9	/	3.1	/
Patient 16	SIDS	2.8	4.1	3.4	/	/	/
Median	SIDS	3.0	4.3	3.8	4.4	4.1	3.9
Patient 17	AMR	3.1	4.0	3.8	/	3.7	3.9
Patient 20	AMR	3.8	4.3	3.8	5.2	3.9	4.4
Patient 27	AMR	3.7	5.5	4.5	5.2	4.4	4.9
Patient 29	AMR	3.5	4.9	4.6	4.6	4.5	4.6
Patient 30	AMR	3.6	5.3	/	/	4.8	5.7
Median	AMR	3.6	4.9	4.2	5.2	4.4	4.6

22 D0, D22 and D44 correspond to the days before IVIg administration, and D1, D23 and D45 to
 23 the days after IVIg administration (See Methods section).

24 NEG.: negative result (NAb titer < 2 \log_{10} IC50)

25 Kidney transplant recipients who displayed low BKPyV NAb titers (< 4 \log_{10} IC50) against
 26 BKPyV genotype I and received IVIg therapy were:

27 - In the AMR group: 5/17 patients

28 - In the SIDS group: 16/16 patients

29

30 **Table S5:** BKPyV genotype II NAb titers (\log_{10} IC50) measured during IVIg treatment .

Patients	IVIg regimen	D0	D1	D22	D23	D44	D45
Patient 1	SIDS	NEG.	3.4	/	3.8	/	/
Patient 2	SIDS	3.2	3.3	3.2	3.6	3.6	3.7
Patient 3	SIDS	NEG.	2.9	2.9	2.9	/	3.6
Patient 4	SIDS	3.21	3.9	3.4	3.4	2.8	3.6
Patient 5	SIDS	NEG.	3.1	3.1	3.4	3.1	3.1
Patient 6	SIDS	3.0	4.0	3.5	4.0	3.1	3.2
Patient 7	SIDS	3.7	3.9	3.3	3.4	3.5	3.2
Patient 8	SIDS	2.7	3.7	3.6	3.2	3.9	2.8
Patient 9	SIDS	2.9	3.2	3.2	3.3	3.4	3.4
Patient 10	SIDS	3.0	2.7	3.3	2.8	/	/
Patient 11	SIDS	3.0	3.1	2.7	3.1	/	3.4
Patient 13	SIDS	NEG.	3.1	2.6	2.8	NEG.	/
Patient 14	SIDS	NEG.	2.9	/	3.2	/	/
Patient 15	SIDS	3.1	4.2	2.8	/	NEG.	/
Patient 16	SIDS	NEG.	3.0	2.5	/	/	3.6
Median	SIDS	2.9	3.2	3.2	3.3	3.1	3.4
Patient 17	AMR	2.5	4.0	3.3	/	3.4	4.4
Patient 18	AMR	3.9	4.7	4.1	4.6	3.8	4.1
Patient 19	AMR	2.6	4.4	4.2	4.3	3.7	4.4
Patient 20	AMR	3.8	4.0	3.7	4.4	3.4	3.7
Patient 21	AMR	3.7	/	3.8	/	3.6	4.1
Patient 22	AMR	3.9	4.6	4.5	4.7	4.4	4.4
Patient 23	AMR	2.9	4.0	3.5	3.6	3.2	3.6
Patient 24	AMR	3.9	4.2	3.8	3.8	3.7	3.9
Patient 25	AMR	3.8	4.4	4.4	4.1	3.8	3.8
Patient 27	AMR	NEG.	4.4	3.9	4.2	3.9	4.4
Patient 29	AMR	NEG.	3.7	3.7	3.8	3.3	4.0
Patient 30	AMR	NEG.	4.3	/	/	3.4	4.4
Patient 31	AMR	NEG.	/	3.7	4.1	3.6	4.0
Patient 32	AMR	3.9	/	4.4	4.6	3.6	4.1
Patient 33	AMR	3.8	3.9	3.7	4.3	3.6	4.0
Median	AMR	3.7	4.3	3.8	4.2	3.6	4.0

31 D0, D22 and D44 correspond to the days before IVIg administration, and D1, D23 and D45 to
32 the days after IVIg administration (See Methods section).

33 NEG.: negative result (NAb titer < 2 \log_{10} IC50)

34 Kidney transplant recipients who displayed low BKPyV NAb titers (< 4 \log_{10} IC50) against
35 BKPyV genotype II and received IVIg therapy were:

36 - In the AMR group: 15/17 patients

37 - In the SIDS group: 15/16 patients

38

39 **Table S6:** BKPyV genotype IV NAb titers (\log_{10} IC50) measured during IVIg treatment .

Patients	IVIg regimen	D0	D1	D22	D23	D44	D45
Patient 1	SIDS	NEG.	3.1	/	2.6	/	/
Patient 3	SIDS	NEG.	2.7	2.6	NEG.	/	3.0
Patient 4	SIDS	NEG.	NEG.	NEG.	NEG.	NEG.	3.2
Patient 5	SIDS	2.6	2.8	2.8	NEG.	2.9	2.5
Patient 6	SIDS	NEG.	3.1	2.5	2.5	NEG.	NEG.
Patient 7	SIDS	3.2	3.6	3.3	2.6	3.5	3.2
Patient 8	SIDS	NEG.	3.2	4.2	2.8	2.8	2.5
Patient 9	SIDS	2.7	2.8	2.6	2.8	3.6	3.3
Patient 10	SIDS	NEG.	NEG.	3.3	NEG.	/	/
Patient 11	SIDS	NEG.	2.7	2.8	3.6	/	2.6
Patient 13	SIDS	3.0	NEG.	2.7	3.3	NEG.	/
Patient 14	SIDS	NEG.	2.5	/	NEG.	/	/
Patient 15	SIDS	NEG.	2.6	2.6	/	NEG.	/
Patient 16	SIDS	NEG.	NEG.	NEG.	/	/	2.5
Median	SIDS	2.1	2.7	2.7	2.7	2.5	2.8
Patient 17	AMR	NEG.	3.2	2.9	/	4.3	4.6
Patient 18	AMR	NEG.	3.8	3.3	3.4	3.2	3.6
Patient 19	AMR	NEG.	4.5	3.7	4.1	3.3	3.4
Patient 20	AMR	3.6	4.1	2.8	3.2	3.2	2.9
Patient 21	AMR	3.1	/	4.3	/	3.9	4.1
Patient 22	AMR	3.8	4.8	4.6	4.6	3.9	4.6
Patient 23	AMR	2.6	3.2	NEG.	3.3	2.7	3.3
Patient 24	AMR	2.6	3.7	3.0	3.5	3.2	3.8
Patient 26	AMR	2.8	4.3	4.0	3.9	3.3	4.0
Patient 27	AMR	2.5	4.0	3.4	4.1	3.4	3.9
Patient 28	AMR	3.4	3.6	3.9	/	3.7	4.4
Patient 29	AMR	NEG.	3.7	3.3	4.0	3.7	4.1
Patient 30	AMR	NEG.	3.9	/	/	3.2	3.3
Patient 31	AMR	NEG.	/	3.2	3.9	3.4	4.4
Patient 32	AMR	3.1	/	2.9	2.9	2.9	3.5
Patient 33	AMR	2.7	3.0	2.7	3.1	2.6	2.6
Median	AMR	2.7	3.9	3.3	3.9	3.3	3.9

40 D0, D22 and D44 correspond to the days before IVIg administration, and D1, D23 and D45 to
41 the days after IVIg administration (See Methods section).

42 NEG.: negative result (NAb titer < 2 \log_{10} IC50)

43 Kidney transplant recipients who displayed low BKPyV NAb titers (< 4 \log_{10} IC50) against
44 BKPyV genotype IV and received IVIg therapy were:

45 - In the AMR group: 16/17 patients

46 - In the SIDS group: 14/16 patients

47