

**Figure S1.** Number of donor-reactive (A) IFN-γ and (B) IL-21 producing cells, grouped by type of rejection at the time of biopsy sampling. AMR, antibody-mediated rejection; IFN-γ, interferon gamma; IL-21, interleukin-21; PBMC, peripheral blood mononuclear cell; TCMR, T cell-mediated rejection.

**Table S1.** Pathology classification of 97 for-cause biopsies performed in a cohort of 103 patients.

Biopsy result and classification	Biopsies, n (N=97)		
TCMR			
Suspicious forTCMR	2		
1B	1		
2A	17		
2B	4		
ABMR			
Suspicious for AMR*	6		
AMR	8		
ATN	51		
ТМА	2		
Other	6		

\*Histologic evidence of AMR without C4d positivity and/or donor-specific antibodies.

ABMR, antibody-mediated rejection; ATN, acute tubular necrosis; TMA, thrombotic microangiopathy; TCMR, T cell-mediated rejection.

Table S2. Number of donor-reactive cells in pretransplant samples and samples taken at the time of biopsy sampling.

Samples	# IFN-γ producing cells/1X10⁵ PBMC, median (IQR)	# IL-21 producing cells/3X10 <sup>5</sup> PBMC, median (IQR)	
Pretransplant sample			
No REJ vs BPAR	31 (14-48) vs 57 (35-82)	35 (12-59) vs 58 (28-114)	
Presumed REJ vs BPAR	46 (33-83) vs 57 (35-82)	48 (27-109) vs 58 (28-114)	
Biopsy sample			
No REJ vs BPAR	14 (5–23) vs 55 (28–87)	18 (5–54) vs 56 (42–118)	
Presumed REJ vs BPAR	37 (18–56) vs 55 (28–87)	27 (21-47) vs 56 (42–118)	

BPAR, biopsy-proven acute rejection; IFN, interferon; IQR, interquartile range; PBMC, peripheral blood mononuclear cell; REJ, rejection.

**Table S3.** Univariate analysis of variables associated with the development of BPAR within 6 months after transplantation.

Recipient and donor characteristics

	Exp (B)	95% CI	Р
Recipient age, years	1.04	0.98-1.12	0.21
Total number of Tx	1.34	0.17-10.66	0.78
Deceased donor	2.09	0.54-8.04	0.28
Total HLA mismatch	1.20	0.77-1.86	0.43
PRA current	1.00	0.94-1.04	0.58
PRA historical	1.05	1.01-1.10	0.03
Positive pre-Tx IFN-G	40.89	2.83-591.50	0.006

CI, confidence interval; PRA, panel-reactive antibody; Tx, transplantation.

**Table S4.** IFN- $\gamma$  ELISPOT assay results pretransplantation and at the time of biopsy sampling.

## ELISPOT assay at time of biopsy sampling

		Negative	Positive	TOTAL
Pretransplant ELISPOT assay	Negative	10	2	12
	Positive	13	26	39
	TOTAL	23	28	51

ELISPOT, Enzyme-Linked Immune Absorbent Spot.