Supplemental Table 1. Clinical characteristics of patients with HTLV-1 detected in placental villus only or cord blood only among 140 pregnant carriers with HTLV-1 infected placenta.

Characteristic	Placental villus positive *n* = 134 (95.7%)	Cord blood positive *n* = 6 (4.3%)	*P* value
Placental PVL (%)	0.059 (0.011×10^{-8}-2.672)	0.008 (0.070×10^{-4}-0.243)	0.107[A]
Peripheral PVL (%)	0.535 (0.005-11.365)	0.596 (0.032-3.038)	0.979[A]
Peripheral antibody titer (CLEIA, COI)	37.1 (2.5-45.0)	26.7 (11.5-45.0)	0.447[A]
Parity			0.096[B]
Primi	43 (32.1%)	0 (0%)	
Multi	91 (67.9%)	6 (100%)	
Age, years (range)	31 (19-43)	35 (25-36)	0.430[A]
Gestation week of delivery	39 (34-42)	38 (37-40)	0.076[A]
Mode of delivery			0.436[B]
Vaginal delivery	107 (79.9%)	4 (66.7%)	
Cesarean section (CS)	27 (20.1%)	2 (33.3%)	
CS without labor onset	20	2	
CS after labor onset	7	0	
Fetal sex			0.087[B]
Male	59 (44.0%)	5 (83.3%)	
Female	65 (48.5%)	1 (16.7%)	
Unknown	10	0	
Birth weight, g (range)	3,050 (2,440-4,058)	2,982 (2,560-3,956)	0.530[A]
Complications during pregnancy			
None	114 (85.1%)	5 (83.3%)	
Preterm labor	10 (7.5%)	1 (16.7%)	0.412[B]
Gestational diabetes mellitus	5 (3.7%)	0 (0%)	0.630[B]
Hypertensive disorders of pregnancy	5 (3.7%)	0 (0%)	0.630[B]

[A]Mann-Whitney *U*-test was performed to compare statistical differences between the groups.

[B]Chi-square test was performed to compare statistical differences between the groups.

Data are the median (range) or number of donors (%).

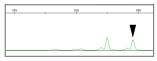
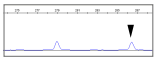
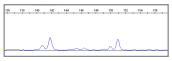
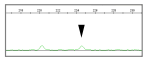
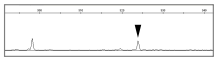
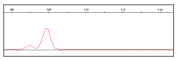
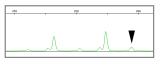
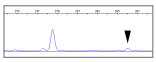
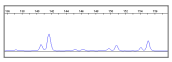
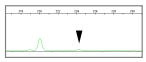
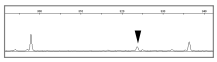
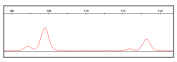
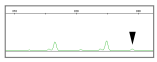
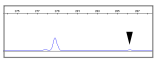
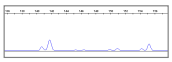
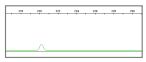
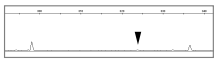
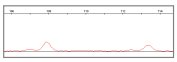
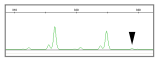
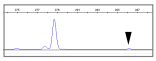
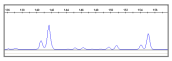
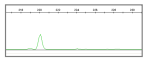
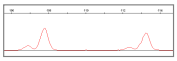
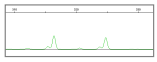
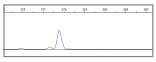
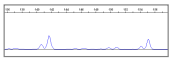
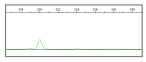
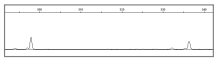
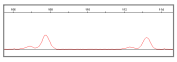
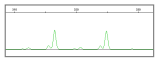
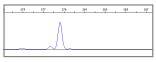
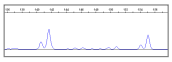
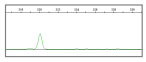
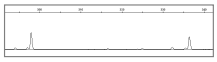
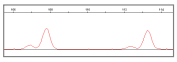
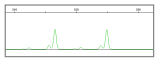
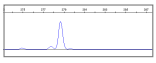
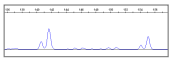
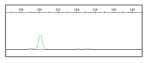
PVL, proviral load; CLEIA, chemiluminescent enzyme immunoassay; COI, cut-off index.

Supplemental Table 2. Characteristics of HTLV-1-infected (*n* = 2) or -uninfected humanized mice (*n* = 1).

ID	Infection	HTLV-1 PVL (%)	human WBC count (/μL)	CD3 in PBMC (%)	CD25 in PBMC (%)
Mouse A	Mock	–	680	23.5	2.1
Mouse B	HTLV-1	74.8	713	40.8	10.7
Mouse C	HTLV-1	112.0	35850	92.5	40.6

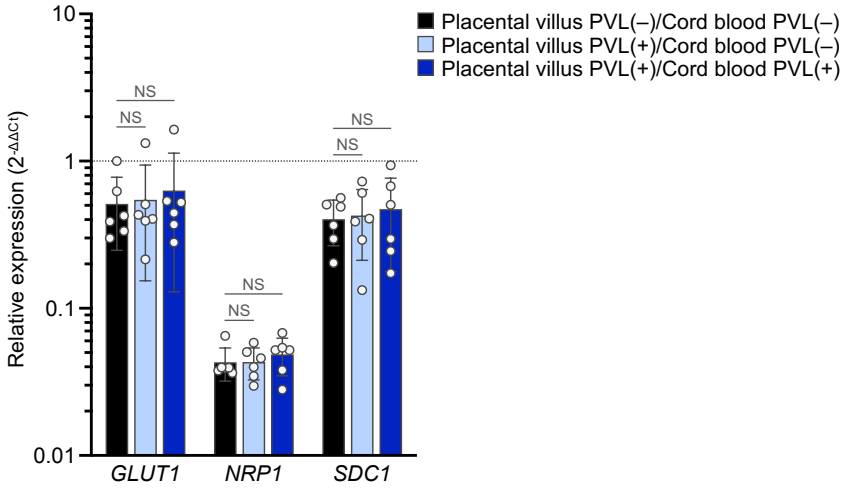
HTLV-1 proviral load (PVL) in the peripheral blood was determined by real-time PCR.

Absolute numbers of human CD45+ lymphocytes and the frequencies of human CD3+ and CD25+ lymphocytes in the peripheral blood were determined by flow cytometry.

Maternal blood (%)	Cord blood (%)	PVL (%)	D2S1338	D7S820	D8S1179	D13S317	D18S51	Amelogenin
100	0	0.687						
50	50	0.131						
30	70	0.103						
20	80	0.129						
10	90	0.040						
5	95	0.023						
1	99	ND						
0.5	99.5	ND						
0.1	99.9	ND						
0.01	99.99	ND						
0	100	ND						

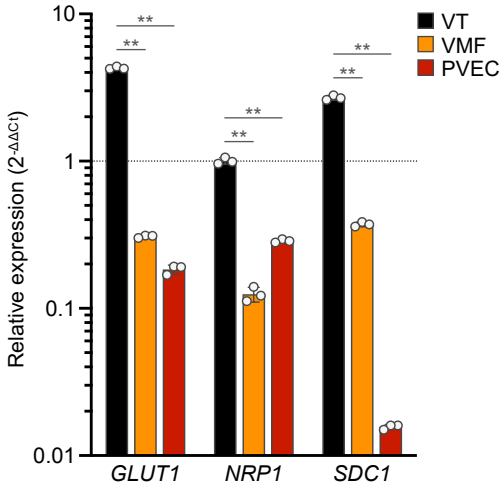
Supplemental Figure 1. Sensitivity of STR analysis for the detection of fetomaternal microtransfusion.

Maternal blood and cord blood at delivery were collected from a pregnant HTLV-1 carrier, and mononuclear cells were isolated. Mononuclear cells derived from maternal blood and cord blood were mixed at 11 different mixing rates (maternal vs fetal cell ratio: 100:0, 50:50, 30:70, 20:80, 10:90, 5:95, 1:99, 0.5:99.5, 0.1:99.9, 0.01:99.99, and 0:100). After DNA extraction, STR analysis and HTLV-1 PVL assay were performed. Arrowheads indicate maternal-specific signals in STR analysis. ND, not detected.



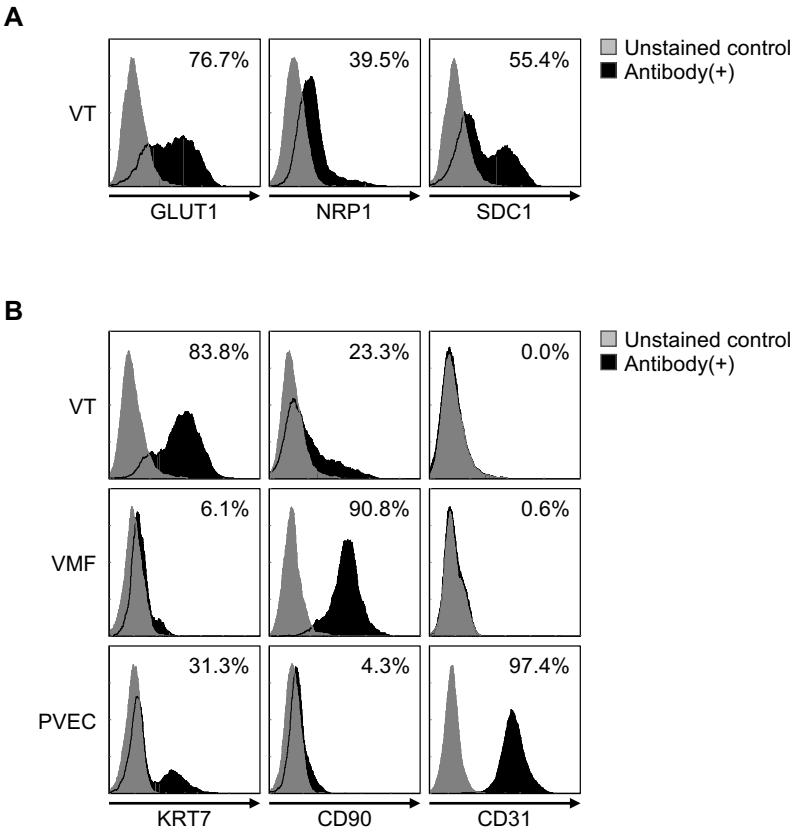
Supplemental Figure 2. Expression of HTLV-1 receptor genes in placental villous of pregnant carriers.

Eighteen placental villous FFPE samples were prepared from 18 pregnant carriers divided into groups based on the detection of HTLV-1 provirus in the villi and/or the cord blood. The pregnant carriers are the same as those in Figure 4B (Nos. 1–6; placental villus PVL-negative and cord blood PVL-negative, Nos. 7–12; placental villus PVL-positive and cord blood PVL-negative, and Nos. 13–18; placental villus PVL-positive and cord blood PVL-positive). Total RNA was extracted from the FFPE tissue sections. The relative expressions of *GLUT1*, *NRP1*, and *SDC1* were quantified by real-time RT-PCR. Human *HPRT1* mRNA was used as an internal reference gene for the normalization of RNA extraction. The data were expressed as the means ± SD of six individuals. Data were analyzed by 2-way ANOVA with Dunnett's multiple-comparisons test (NS, not significant).



Supplemental Figure 3. Expression of HTLV-1 receptor genes in placental cells.

Total RNA was extracted from VT, VMF, and PVEC cell suspensions. The relative expressions of *GLUT1*, *NRP1*, and *SDC1* were quantified by real-time RT-PCR. Human *HPRT1* mRNA was used as an internal reference gene for the normalization of RNA extraction. The data were expressed as the means ± SD of three independent experiments. Asterisks represent significant differences between the data for VT versus VMF or PVEC (**, $P < 0.01$ by 2-way ANOVA with Dunnett's multiple-comparisons test). VT, villous trophoblasts; VMF, villous mesenchymal fibroblasts; PVEC, placental vascular endothelial cells.



Supplemental Figure 4. Cell surface expression of HTLV-1 receptors and cell-specific markers in placental cells.

The expression levels of GLUT1, NRP1, and SDC1 on the surface of VT (A) and the cell purity of VT, VMF, and PVEC (B) were examined by flow cytometry. The percentages of the indicated marker-positive cells are presented in each panel. The cell-specific marker molecules for VT, VMF, and PVEC are KRT7, CD90, and CD31, respectively, and the rates of marker-positive cells were 83.8%, 90.8%, and 97.4%, indicating sufficient cell purity. VT, villous trophoblasts; VMF, villous mesenchymal fibroblasts; PVEC, placental vascular endothelial cells.