S1 Table. SFV Env proteins produced for the study

| Name | Description ^a | Expression level ^b | Coomassie gel shown in Supplementary Fig. 4 | Neutralization experiments presented in | Comment |
|-----------------------------------|---|----------------------------------|--|---|---------|
| Immunoadhesins | (SU fused to murine Fc and Strep- tag | | | | |
| ^{ci} SU | WT immunoadhesin, CI-PFV strain | | Panel A | Fig. 7 | |
| Kifu ^{CI} SU | WT immunoadhesin produced in the presence of Kifunensine | Normal | Panel B | Fig. 7 | |
| Kifu+Endo-H ^{CI} SU | WT immunoadhesins produced in the presence of Kifunensine and treated with Endo-H | Normal | Panel B | Fig. 7 | |
| ^{CI} ΔN10 | N423>A | Normal | Panel E | Fig. 7 | |
| ^{CI} ΔRBDj | ΔF397-S483 | Normal | Panel E | Fig. 7 | |
| ^{CI} ΔL2 | ΔK278-Y293 | Reduced | Panel F | Fig. 7 | |
| ^{CI} ΔL3 | ΔI411-R436 | Normal | Panel F | Fig. 7 | |
| ^{ci} swapL3 | CI-I411-R436>GII-V410-R433 | Normal | Panel F | Fig. 7 | |
| ^{CI} ΔL4 | ΔΕ445-Ρ461 | Normal | Panel F | Fig. 7 | |
| ^{CI} 350 _{glyc} | G350N | Normal | Panel F | Fig. 7 | |
| ^{CI} 352 _{glyc} | S352N | Undetectable | | Fig. 7 | |
| ^{CI} 463 _{glyc} | W463N | Normal | Panel F | Fig. 7 | |
| ^{GII} SU | WT immunoadhesin, GII-K74 strain | | Panel A | Fig. 3, 4, 5 | |
| Kifu ^{GII} SU | WT immunoadhesin produced in the presence of Kifunensine | Normal | Panel B | Fig. 3 | |
| Kifu+Endo-H ^{GII} SU | WT immunoadhesin produced in the presence of Kifunensine and treated with Endo-H | Normal | Panel B | Fig. 3 | |
| ^{GII} ΔN5 | N286>A | Reduced | Panel C | Fig. 3 | |
| ^{GII} ΔN6 | N311>A | Normal | Panel C | Fig. 3 | |

| ^{GΠ} ΔN7 | N346>A | Normal | Panel C | Fig. 3 | |
|------------------------------------|-------------------------------|--------------|---------|---------------|-------------------------------------|
| ^{GII} ΔN7′ | N373>A | Reduced | Panel C | Fig. 3 | |
| ^{GII} ΔN9 | N404>A | Reduced | Panel C | Fig. 3 | |
| ^{GII} ΔN10 | N411>A | Reduced | Panel C | Fig. 3 | |
| ^{GII} ΔN9N10 | N404>A + N411>A | Insufficient | Panel C | - | Aggregates |
| ^{GII} swap407 | 407RYNVNET413>KDIKSEI | Reduced | Panel D | Fig. 3 | |
| ^{GII} ∆RBDj | ΔF396-G480 | Normal | Panel E | Fig. 4 | |
| ^{GII} swapRBDj | GII-F396-G480>GI-F396-A482 | Reduced | Panel E | Fig. 7 | |
| ^{GII} ΔL2 | ΔΚ278-Υ293 | Reduced | Panel F | Fig. 4 | |
| ^{GII} ΔL3 | ΔV410-R433 | Reduced | Panel F | Fig. 4 | |
| ^{GII} ∆L4 | ΔΕ442-Ρ458 | Normal | Panel F | Fig. 4 | |
| ^{GII} 263 ^{glyc} | D263N | Normal | Panel G | Fig. 4 | |
| ^{GII} 426 ^{glyc} | H428>T | Normal | Panel I | Fig. 4 | |
| ^{GII} 450 ^{glyc} | D450>N | Normal | Panel I | Fig. 4 | |
| ^{GII} A438-A443 | 438-REGKKE-443>AAGAAA | Insufficient | | | |
| ^{GII} 459 ^{glyc} | E459>N | Normal | Panel I | Fig. 4 | |
| ^{GII} 485 ^{glyc} | E485>N | Normal | Panel I | Fig. | |
| ^{GII} 364 ^{glyc} | K364>N + G366>T | Reduced | Panel I | | No nAb blocking and no cell binding |
| GII 351 ^{glyc} | L353T | Reduced | Panel H | Fig. 5, | Aggregates; experiments repeated |
| | | | | Supplementary | with SEC purified immunoadhesin |
| | | | | Fig. 5 | |
| ^{GII} 350 ^{glyc} | G350>N + K352>S | Reduced | Panel I | Fig. 5 | Aggregates, moderate |
| ^{GII} 349 _{+E} | E inserted afterT348 | Reduced | Panel I | Fig. 5 | |
| ^{GII} swap333 | GII-L333-S345>CI-EQNERFLLNKLN | Reduced | Panel D | Fig. 5, | |
| | | | | Supplementary | |
| | | | | Fig. 6 | |
| ^{GII} swap345 | GII-S345-N351>GI-NNLTELTS | Normal | Panel D | Fig. 5, | |
| | | | | Supplementary | |
| | | | | Fig. 6 | |
| ^{GII} ΔT348-L353 | ΔT348-L353 + GG | Undetectable | | | |
| ^{GII} swap349 | GII-I349-N355>CI-SGTSVLKK | Insufficient | | | |
| ^{GII} E502A | E502>A | Reduced | Panel D | Fig. 5 | |

| ^{GII} L505N | L505>N | Reduced | Panel D | Fig. 5 | | | |
|----------------------------|--------------------------------|----------------|---------|---------------|--|--------|-----------|
| Tagged proteins | Proteins fused to a Strep-tag | | | | | | |
| MLVSU | MLV SU, strain FB29 | Not applicable | A | Fig. 2 | Three bands are visible in non-reduced conditions that correspond to oligomers formed by the free cysteine thiol group [52]. | | |
| GII-K74 SU(m) | WT SU produced in mammalian | Not applicable | nd | Supplementary | Purified b | y size | exclusion |
| | cells | | | Fig. 2 | chromatography [14] | | |
| GII-K74 SU (i) | WT SU produced in insect cells | Not applicable | nd | Supplementary | Purified b | y size | exclusion |
| | | | | Fig. 2 | chromatography [14] | | |
| GII-K74 Ecto(i) | Env 91-907, produced in insect | Not applicable | nd | Supplementary | Purified b | y size | exclusion |
| | cells | | | Fig. 2 | chromatography [14] | | |
| ^{GII} K342A/R343A | K342>A+R343>A into GII-Ecto(i) | Normal | nd | Fig. 5 | Purified b | y size | exclusion |
| | | | | | chromatography [14] | | |
| ^{GII} R356A/R369A | R356>A+R369>A into GII-Ecto(i) | Normal | nd | Fig. 5 | Purified b | y size | exclusion |
| | | | | | chromatography [14] | | |

^a aa positions indicated are those of each protein; for GII-K74, some differ from the CI-PFV based numbering (Supplementary Fig. 1). The symbols > and Δ designate aa substitutions and deletions, respectively.

^b The level of expression was assessed on crude supernatants of transfected cells and categorized as undetected, insufficient to perform the experiments, decreased, or normal relative to the WT counterpart.