Figure S1

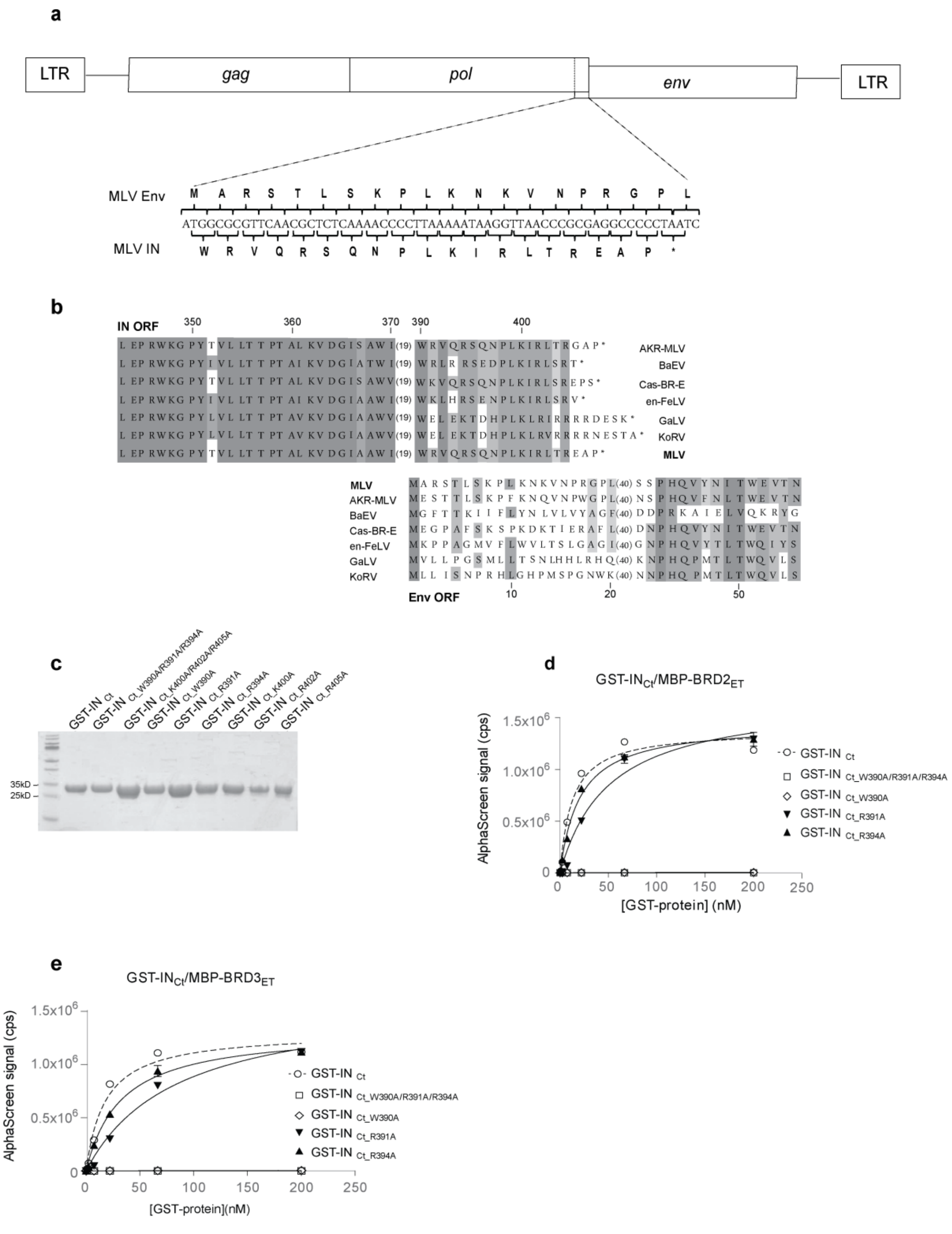
a
LTR
gag
pol
env
LTR
MLV Env
M A R S T L S K P L K N K V N P R G P L
ATGGCGCGTTCAACGCTCTCAAAACCCCTTAAAAATAAGGTTAACCCGCGAGGCCCCCTAATC
MLV IN
W R V Q R S Q N P L K I R L T R E A P *
b
IN ORF
350
360
370
390
400
AKR-MLV
BaEV
Cas-BR-E
en-FeLV
GaLV
KoRV
MLV
MLV
AKR-MLV
BaEV
Cas-BR-E
en-FeLV
GaLV
KoRV
Env ORF
10
20
50
c
GST-IN Ct
GST-IN Ct_W390A/R391A/R394A
GST-IN Ct_K400A/R402A/R405A
GST-IN Ct_W390A
GST-IN Ct_R391A
GST-IN Ct_R394A
GST-IN Ct_K400A
GST-IN Ct_R402A
GST-IN Ct_R405A
35kD
25kD
d
GST-INCt/MBP-BRD2ET
AlphaScreen signal (cps)
1.5x10^6
1.0x10^6
0.5x10^6
0
0
50
100
150
200
250
[GST-protein] (nM)
GST-IN Ct
GST-IN Ct_W390A/R391A/R394A
GST-IN Ct_W390A
GST-IN Ct_R391A
GST-IN Ct_R394A
e
GST-INCt/MBP-BRD3ET
AlphaScreen signal (cps)
1.5x10^6
1.0x10^6
0.5x10^6
0
0
50
100
150
200
250
[GST-protein](nM)
GST-IN Ct
GST-IN Ct_W390A/R391A/R394A
GST-IN Ct_W390A
GST-IN Ct_R391A
GST-IN Ct_R394A

Figure S1: Characterization of the MLV-BET interface

(a) Schematic representation of the MLV genome encoding *gag*, *pol*, and *env* flanked by the long term repeats (LTRs). The C-terminal IN and N-terminal Env open reading frames are shown.

(b) Sequence alignment of the overlapping motifs in the IN open reading frame (upper panel) and Env open reading frame (lower panel) for different gammaretroviruses. MLV; murine leukemia virus (P03355), AKR-MLV; AKR murine leukemia virus (P03356), BaEV; Baboon endogenous virus (P10272), Cas-BR-E;Cas-Br-E murine leukemia virus (P08361), en-FeLV; endogenous feline leukemia (P10273) virus, GaLV; Gibbon ape leukemia virus (P21414), KoRV; Koala retrovirus (Q9TTC1). Protein sequences were downloaded from the UniProt database, aligned with t-coffee software and manually refined. ORF; open reading frame.

(c) Coomassie-stained SDS-PAGE of recombinant GST-tagged MLV mutant peptides. Expected protein size is ca. 31 kDa.

(d-e) Interaction of 2nM of the MBP-fused ET domain of BRD2 (d) and BRD3 (e) with increasing amounts of the GST-fused MLV integrase C-terminal tail (amino acids 381-408) (GST-IN_{Ct}) or its derived mutants as measure by AlphaScreen. Representative experiments are shown. Error bars indicate the standard deviations of triplicate data points.