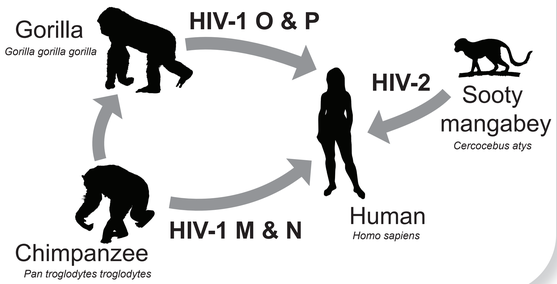
0330

A Virus-Packageable CRISPR Screen to Uncover Genes Underlying SIVcpz Replication in Human Cells

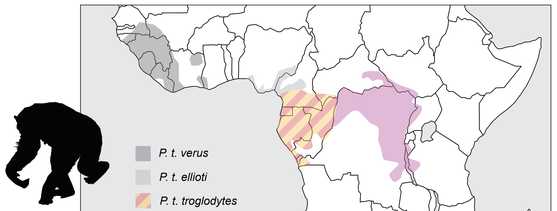
Michael Young[1], Molly Ohainle[1]

[1]University of California Berkeley, Department of Molecular and Cell Biology, Berkeley, CA

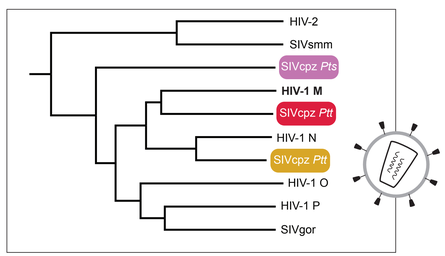
Lentiviruses cross species barriers



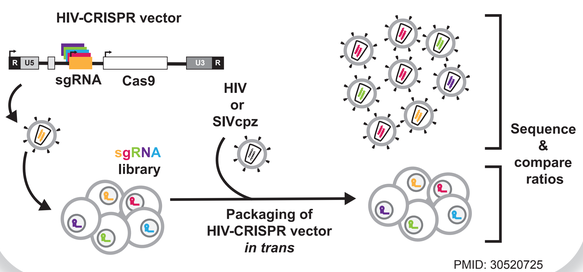
SIVcpz is a genetically & geographically diverse family of lentiviruses



PMID: 31765391

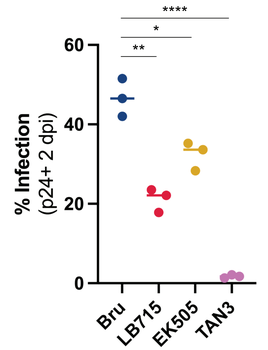


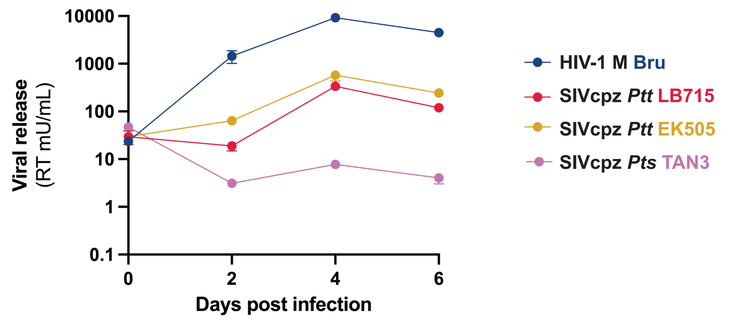
HIV-CRISPR system enables pooled high-throughput genetic screening



PMID: 30520725

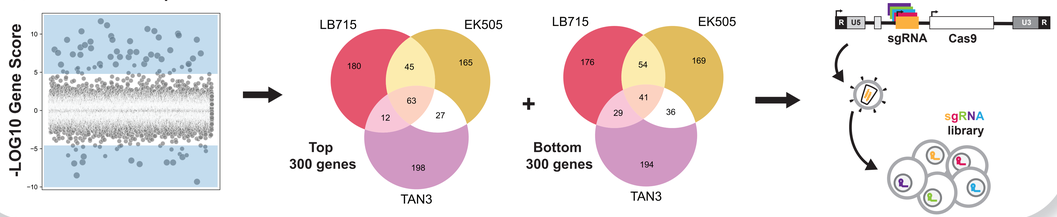
SIVcpz replicates more poorly than HIV-1 M in human cells



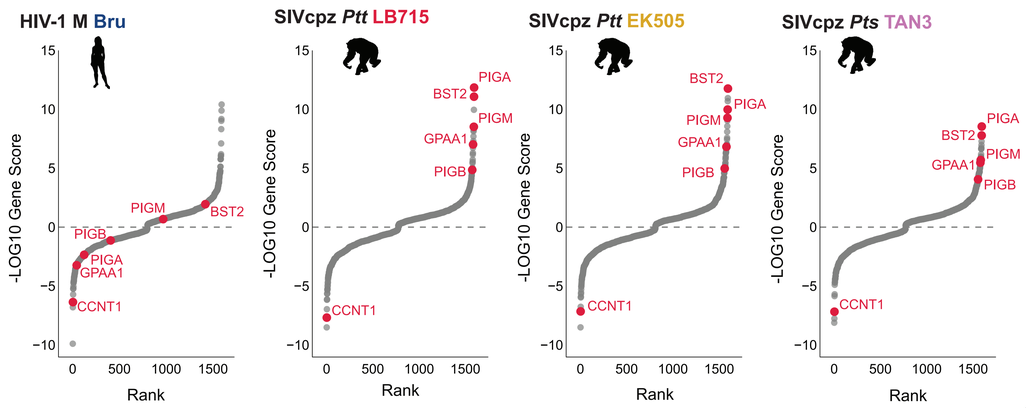


What genes underly the restriction and replication of SIVcpz in human cells?

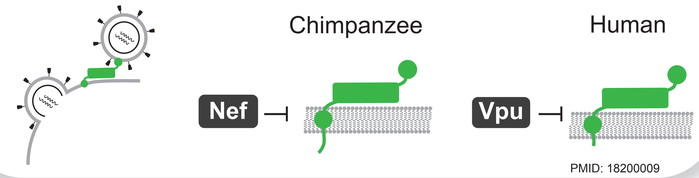
Curated sublibrary with higher sgRNA coverage allows us to distinguish hits



BST2 and GPI-anchor biosynthesis genes are biased toward SIVcpz restriction

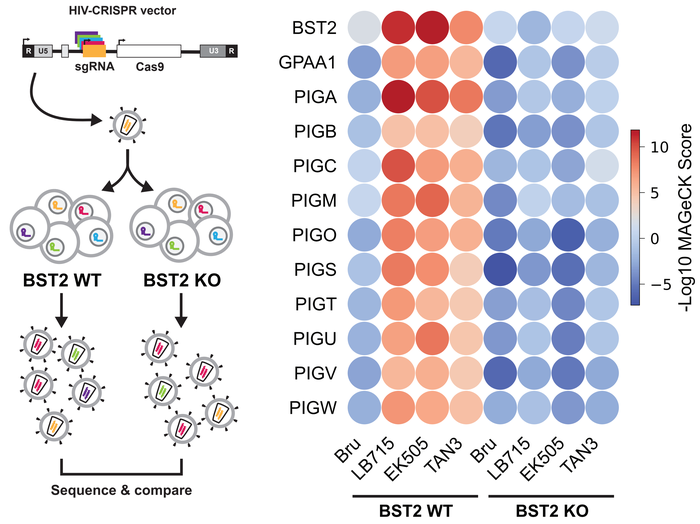


SIVcpz is uniquely sensitive to restriction by human tetherin (BST2)

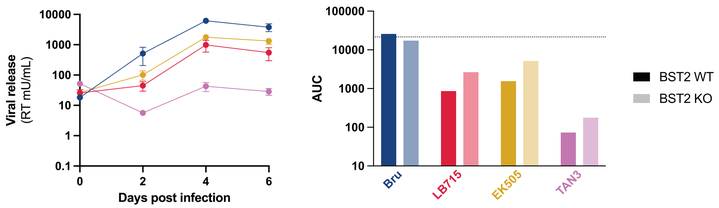


PMID: 18200009

GPI anchor genes enable tetherin restriction



Tetherin knockout only partially rescues SIVcpz replication



What other barriers restrict SIVcpz replication?

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