#### **Online Supplemental Methods.**

Animals, infection and treatment. We infected 39 mycobacteria-naive Indian rhesus macaques acquired from the TNPRC breeding colony supported by the NIH (Supplementary Table 1) with a low dose of *Mtb* CDC1551 via aerosol that developed asymptomatic LTBI infection with low detection of viable *Mtb* cfus in the BAL fluid and low serum C reactive protein (CRP) levels >3  $\mu$ g/mL by 9 weeks post-infection with *Mtb*. Methods for aerosol infection with *Mtb* have been described in detail previously (1-6). A subset of 16 LTBI Mtb-infected rhesus macaques was co-infected with 300 TCID50 SIVmac239 intravenously at week 9 post-*Mtb* infection (Fig 1A). Of this subset, 7 had Mtb infection post-SIV co-infection unperturbed and were considered "Nonreactivators" (NR) while 9 were considered to be "Reactivators" (R) based on extensive clinical and microbiological evidence of TB disease in the post-SIV time-points (Fig 1B-K). A subset of 5 LTBI *Mtb*-infected rhesus macaques was co-infected with 300 TCID50 SIVmac239 $\Delta$ GY intravenously at week 9 post-*Mtb* infection (Fig 1A). A subset of 8 LTBI Mtb-infected rhesus macaques was administered a macaque CD4+ T celldepleting antibody CD4R1 (50 mg/kg administered once every 2-3 weeks intravenously) obtained from the CD4R1 antibody provided by NHP Reagent Resource, Boston, MA, USA (Fig 1A). The depleting antibody was administered every two-three weeks (i.e., weeks 9, 11, 13, 15, 18) per the manufacturer's instructions. This antibody has been extensively used to deplete CD4<sup>+</sup> T cells in macaques (7, 8). The animals were

subjected to weekly physical examinations by board certified clinician(s), including body temperature and weight, and complete blood chemistries, including serum CRP evaluated.

**Measurement of** *Mtb* **infection progression and TB disease**. To measure the extent of TB disease following aerosol *Mtb* infection in the various groups of animals, we studied serum CRP levels weekly, as described (1-6, 9). Viable *Mtb* CFUs were obtained from BAL fluid at weeks 3, 7, 11, 15, 19, and from the lungs, bronchial lymph nodes, spleen, liver and kidney at necropsy, as described earlier (4-6). We also evaluated CFUs from individual lung granulomas isolated at necropsy, as described earlier (6, 10).

<u>Measurement of SIV viral loads</u>. Plasma viral loads (PVL) were measured in plasma collected from macaques infected with either the parental SIVmac239 or the SIV $\Delta$ GY mutant using a PCR-based assay as described earlier (1, 6, 11).

**Flow cytometry**. Flow cytometry was performed on whole blood, BAL and lung samples from all animals, as previously described (4-6, 10, 12, 13). Blood and BAL were collected for flow cytometric analysis at week 3, 7, 11, 15, 19, and necropsy, depending on survival, to characterize T cell numbers, phenotype, proliferation and migration. At necropsy, PBMCs, BAL and lung cells isolated from each animal were stimulated to show changes in T cell functionality dependent upon disease state. Antibodies used for analysis of T cell populations included the following antibodies from BD Biosciences: CD3 (clone SP34-2), CD4 (clone L200), CD8 (clone RPA-T8), CD20 (clone 2H7), CD28

(clone CD28.2), CD69 (clone FN50), CD95 (clone DX2), HLA-DR (clone L243), Ki67 (clone B56), CCR5 (clone 3A9), CCR7 (clone 3D12), and PD-1 (clone EH12.2H7) (6, 10).

**<u>Confocal microscopy</u>**. Fluorescent immunohistochemistry, chromogenic staining, and *in situ* hybridization were performed on formalin-fixed, paraffin-embedded tissue as previously described (14).

**RNA isolation**. RNA was isolated using TRIzol<sup>™</sup> Reagent (ThermoFisher Scientific Cat no: 15596018). BAL cells were resuspended with 1 mL of TRIzol reagent and lysed by pipetting. Lung tissue was isolated at necropsy and homogenized in a gentleMACS dissociator. Next, 200µl of chloroform was added to each tube and mixed well by shaking up and down. They were then centrifuged for 15 minutes at 12,000xg at 4°C and the upper aqueous layer was carefully collected. The RNA was precipitated by adding 1µl of glycogen (Invitrogen cat no: 10814010) and equal volume of isopropyl alcohol. Incubation at -20°C for 10 minutes was done and followed up by centrifugation at 12,000xg for 10 minutes at 4°C. Finally, the RNA pellet was washed twice with 500µl of 75% ethanol. The pellet was air dried and reconstituted in 30µl of RNase-free water. To remove the contaminating DNA, the samples were treated with TURBO<sup>™</sup> DNase (ThermoFisher Scientific Cat no: AM2238) and RNA cleanup done using RNeasy Mini Kit (Qiagen) according to manufacturer's protocol. Finally, the concentration of the RNA samples was measured using Qubit 4 Fluorometer.

**<u>cDNA preparation</u>**. cDNA was prepared using RevertAid RT Reverse Transcription Kit (ThermoFisher Scientific cat no: K1691) according to manufacturer's protocol. Approximately 1µg of RNA was used per sample.

**qRT-PCR.** Quantitative SYBR Green-based qRT-PCR was performed with Applied Biosystems<sup>TM</sup> PowerUp<sup>TM</sup> SYBR<sup>TM</sup> Green Master Mix (Cat no: A25776). RT<sup>2</sup> Custom Profiler PCR Arrays (Qiagen Cat no: 330171) were used and the plate was loaded into an Applied Biosystem QuantStudio 5 Real-time PCR machine. The thermocycler was run with an incubation for 2 min at 50°C, followed by an initial denaturation for 10 mins at 95°C. The PCR stage program was set at 95°C for 15 sec, followed by 60°C for 1 min for 40 cycles. The PCR stage was followed by Melt curve stage according to equipment default conditions. 'ACTB' was used as the housekeeping gene to normalize expression levels, and the fold change was calculated using the comparative CT method.

<u>**Transcriptomics</u>**. Transcriptional differences between the animals with LTBI, active disease, SIVmac239-reactivation, SIVmac239-nonreactivation, SIV $\Delta$ GY co-infection, and CD4-depletion were analyzed using *M. mulatta* (rhesus macaque) specific Agilent 4x44 DNA microarray reagent as described earlier (3-5, 15). Gene-enrichment analysis was performed using DAVID as described earlier. Within DAVID, various modalities were to perform gene-enrichment analyses including Gene Ontology (GO) Molecular Functions or Biological Processes (Fig 4A,D,E), Categories (Fig 4C), and INTERPRO</u>

(Fig 4B). Output from DAVID utilized appropriate correction for repeated measures for multiple comparisons (Bonferroni).

<u>Measurement of cytokine levels</u>. We performed cytokine analyses on plasma and BAL supernatant using the Cytokine/Chemokine/Growth Factor 37-Plex NHP ProcartaPlex<sup>™</sup> Panel (Invitrogen) according to the manufacturer's instructions and as described earlier for supernatants derived from macaque cells infected with *Mtb* (16).

<u>Statistical analyses</u>. Statistical comparisons were performed using one-way or two-way analysis of variance (ANOVA) in GraphPad Prism with Sidak's or Tukey's correction for multiple hypotheses, or one unpaired Students t-test as noted in figure legends as described previously (4). \*P < 0.05; \*\*P < 0.01; \*\*\*P < 0.001; \*\*\*\*P <0.0001. All figures are shown as mean  $\pm$  SEM.

<u>Study approval</u>. All animal procedures were specifically approved by the Tulane National Primate Research Center Institutional Animal Care and Use Committee. All work related to biological containment was approved by the Tulane Institutional Biosafety Committee.

<u>Author Contributions</u>. A.N.B. developed the study design, carried out the experiments, analyzed the results, and participated in manuscript preparation; T.W.F., A.C. and X.A. carried out the experiments and analyzed some results; B.T., M.G.K. and N.A.G. carried out the experiments; D.K.S. and T.H.L. analyzed some results; J.A.H. provided

vital reagents and helped with interpretation; J.R., S.M. and M.A helped with interpretation and participated in manuscript preparation; S.A.K. and D.K. developed the study design, analyzed the results, and participated in manuscript preparation.

# Supplementary Table 1. Age, gender, and MAMU-type of each Indian rhesus macaque

included in this study.

Animal IDStatusAge (Years)SexPrevalue Probability of the probability of th					Durations Datable stics					MAN	IU-Тур	е			
FE10         LTBI         7.00         MALE         PNAS 2016         ·	Animal ID	Status	Age (Years)	Sex	Previous Publication	A*01	A*02	A*08	A*11	B*01	B*03	B*04	B*08	B*17	DR2011
FLOSLTBI6.81MALEPMAS 2016ii <th< td=""><td>FE10</td><td>LTBI</td><td>7.00</td><td>MALE</td><td>PNAS 2016</td><td>-</td><td>+</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></th<>	FE10	LTBI	7.00	MALE	PNAS 2016	-	+	-	-	-	-	-	-	-	-
GP50         ITBI         11.18         NALE         Tuberculosis 2019         +         -         -         +         +         +         +         +         +         - <t <="" td=""><td>FJ05</td><td>LTBI</td><td>6.81</td><td>MALE</td><td>PNAS 2016</td><td>+</td><td>+</td><td>-</td><td>-</td><td>+</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></t>	FJ05	LTBI	6.81	MALE	PNAS 2016	+	+	-	-	+	-	-	-	-	-
HA90         LTBI         4.06         NALE         PNAS 2016         N/A         <	GP50	LTBI	11.18	MALE	Tuberculosis 2019	+	-	-	+	+	-	-	-	-	+
H674         LTBI         4.07         NALE         PNAS 2016         +         -	HA90	LTBI	4.06	MALE	PNAS 2016	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HC90         LTBI         4.01         MALE         PNAS 2016         +         +         -	HB74	LTBI	4.07	MALE	PNAS 2016	+	-	-	-	-	-	-	-	-	+
HV02LTBI9.34MALETuberculosis 2019 <td>HC90</td> <td>LTBI</td> <td>4.01</td> <td>MALE</td> <td>PNAS 2016</td> <td>+</td> <td>+</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>+</td>	HC90	LTBI	4.01	MALE	PNAS 2016	+	+	-	-	-	-	-	-	-	+
JD72     LTBI     7.38     MALE     Tuberculosis 2019     .     +     +     +     -     .	HV02	LTBI	9.34	MALE	Tuberculosis 2019	-	-	+	-	+	-	-	-	-	-
JF47     LTBI     7.32     MALE     Tuberculosis 2019     -	JD72	LTBI	7.38	MALE	Tuberculosis 2019	-	+	+	-	-	-	-	-	-	-
JN75LTBI5.45MALETuberculosis 2019+iii	JF47	LTBI	7.32	MALE	Tuberculosis 2019	-	-	-	+	-	-	-	-	-	+
ER44NR8.61MALEPNAS 2016 <td>JN75</td> <td>LTBI</td> <td>5.45</td> <td>MALE</td> <td>Tuberculosis 2019</td> <td>+</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>+</td>	JN75	LTBI	5.45	MALE	Tuberculosis 2019	+	-	-	-	-	-	-	-	-	+
HB12         NR         4.97         MALE         PNAS 2016         +         -	ER44	NR	8.61	MALE	PNAS 2016	-	-	-	+	-	-	-	-	-	-
HV08         NR         3.85         MALE         PNAS 2016         +         r.	HB12	NR	4.97	MALE	PNAS 2016	+	-	-	-	-	-	-	-	+	-
ID01         NR         3.58         MALE         PNAS 2016         +         -         +         -	HV08	NR	3.85	MALE	PNAS 2016	+	-	-	-	+	-	-	-	-	-
JF23       NR       7.26       MALE       Tuberculosis 2019       +       -	ID01	NR	3.58	MALE	PNAS 2016	+	-	+	-	-	-	-	-	-	-
JH07NR7.32MALETuberculosis 2019 <t< td=""><td>JF23</td><td>NR</td><td>7.26</td><td>MALE</td><td>Tuberculosis 2019</td><td>+</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></t<>	JF23	NR	7.26	MALE	Tuberculosis 2019	+	-	-	-	-	-	-	-	-	-
JI68         NR         6.06         MALE         Tuberculosis 2019         ·<	JH07	NR	7.32	MALE	Tuberculosis 2019	-	+	-	-	+	-	-	-	-	-
EH92R8.94MALEPNAS 2016 <td>JI68</td> <td>NR</td> <td>6.06</td> <td>MALE</td> <td>Tuberculosis 2019</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>+</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td>	JI68	NR	6.06	MALE	Tuberculosis 2019	-	-	-	-	+	-	-	-	-	-
HP22R3.79MALEPNAS 2016++11 </td <td>EH92</td> <td>R</td> <td>8.94</td> <td>MALE</td> <td>PNAS 2016</td> <td>-</td> <td>-</td> <td>-</td> <td>+</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td></td>	EH92	R	8.94	MALE	PNAS 2016	-	-	-	+	-	-	-	-	-	
HP41R3.78MALEPNAS 2016 <td>HP22</td> <td>R</td> <td>3.79</td> <td>MALE</td> <td>PNAS 2016</td> <td>+</td> <td>+</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>+</td>	HP22	R	3.79	MALE	PNAS 2016	+	+	-	-	-	-	-	-	-	+
ID91       R       3.67       MALE       PNAS 2016       +       -       -       +       -	HP41	R	3.78	MALE	PNAS 2016	-	-	-	-	+	-	-	-	-	-
IF04R3.53MALEPNAS 2016 </td <td>ID91</td> <td>R</td> <td>3.67</td> <td>MALE</td> <td>PNAS 2016</td> <td>+</td> <td>-</td> <td>-</td> <td>-</td> <td>+</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td>	ID91	R	3.67	MALE	PNAS 2016	+	-	-	-	+	-	-	-	-	-
IP88       R       7.05       MALE       Tuberculosis 2019       +       -       -       +       -	IF04	R	3.53	MALE	PNAS 2016	-	-	+	-	-	-	-	-	-	-
JE48       R       6.33       MALE       Tuberculosis 2019       ·       +       ·	IP88	R	7.05	MALE	Tuberculosis 2019	+	-	-	-	+	-	-	-	-	-
KG40R5.51MALETuberculosis 2019 <th< td=""><td>JE48</td><td>R</td><td>6.33</td><td>MALE</td><td>Tuberculosis 2019</td><td>-</td><td>+</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></th<>	JE48	R	6.33	MALE	Tuberculosis 2019	-	+	-	-	-	-	-	-	-	-
LE24R4.39MALEN/A	KG40	R	5.51	MALE	Tuberculosis 2019	-	-	+	-	-	-	-	-	-	-
JF92SIVAGY NR6.86MALEN/A </td <td>LE24</td> <td>R</td> <td>4.39</td> <td>MALE</td> <td>N/A</td> <td>-</td>	LE24	R	4.39	MALE	N/A	-	-	-	-	-	-	-	-	-	-
JN91         SIVAGY NR         5.91         MALE         N/A         -         -         +         -	JF92	SIVAGY NR	6.86	MALE	N/A	-	-	-	-	-	-	-	-	-	-
JT03       SIVAGY NR       5.76       MALE       N/A       -       -       +       -	JN91	SIV∆GY NR	5.91	MALE	N/A	-	-	+	-	-	-	-	-	-	-
KB26         SIVAGY NR         4.45         MALE         N/A         -         -         +         -	JT03	SIV∆GY NR	5.76	MALE	N/A	-	-	+	-	-	-	-	-	-	-
KK75       SIV $\Delta$ GY NR       4.02       MALE       N/A       -       -       +       +       +       -       -       -       +         HP70       CD4R1-antibody       9.65       MALE       N/A       -       -       -       +       +       -       -       -       +       -       -       -       +       -       -       -       +       -       -       -       +       -       +       -	KB26	SIVAGY NR	4.45	MALE	N/A	-	-	+	-	-	-	-	-	-	-
HP70       CD4R1-antibody       9.65       MALE       N/A       -       -       +       -<	KK75	SIV∆GY NR	4.02	MALE	N/A	-	-	-	+	+	-	-	-	-	+
JC82       CD4R1-antibody       8.30       MALE       N/A       +       -       -       -       -       -       -       +       +         JT56       CD4R1-antibody       6.99       MALE       N/A	HP70	CD4R1-antibody	9.65	MALE	N/A	-	-	-	+	-	-	-	-	+	-
JT56       CD4R1-antibody       6.99       MALE       N/A       N/A <td>JC82</td> <td>CD4R1-antibody</td> <td>8.30</td> <td>MALE</td> <td>N/A</td> <td>+</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>+</td>	JC82	CD4R1-antibody	8.30	MALE	N/A	+	-	-	-	-	-	-	-	-	+
KC31       CD4R1-antibody       6.28       MALE       N/A       +       -       I       -       I       -       I       -       I<	JT56	CD4R1-antibody	6.99	MALE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
KE82       CD4R1-antibody       5.72       MALE       N/A       -       +       -       +       -       +       -       -       +       -       +       -       -       +       -       -       +<	KC31	CD4R1-antibody	6.28	MALE	N/A	+	-		-	-	-	-	-	+	-
KH07       CD4R1-antibody       5.52       MALE       N/A       -       -       +       -       +       -<	KE82	CD4R1-antibody	5.72	MALE	N/A	-	+	-	-	+	-	-	-	-	+
KH59         CD4R1-antibody         5.45         MALE         N/A         - <td>KH07</td> <td>CD4R1-antibodv</td> <td>5.52</td> <td>MALE</td> <td>N/A</td> <td>-</td> <td>-</td> <td>+</td> <td>-</td> <td>+</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td>	KH07	CD4R1-antibodv	5.52	MALE	N/A	-	-	+	-	+	-	-	-	-	-
KN66 CD4B1-antibody 4.67 MALE N/A +	КН59	CD4R1-antibody	5.45	MALE	N/A	-	-	-	-	-	-	-	-	-	-
	KN66	CD4R1-antibody	4,67	MALF	N/A	+	-	-	-	-	-	-	-	-	-

**Supplementary Table 2.** A list of genes which exhibited the most significantly differential expression in the lungs of the four groups of macaques (Mtb/SIV co-infected reactivators, Mtb/SIV co-infected nonreactivators, Mtb/SIV $\Delta$ GY co-infected animals, and Mtb infected/CD4R1-administered animals (n=3 per group).

<ul> <li>A. (2) (20038) (Labbia) (L</li></ul>	s (human)] 1. man)1 1.	1.679650617	0 0	0	0	2.70E-13
AC     PO100000     SPAJANI span protein agenein (2017) (-brice agenein (Limmun))     10       AC     PO100000     SPAJANI span protein agenein (Limmun)     12       AC     PO000000     SPAJANI span protein agenein (Limmun)     12       AC     PO00000     SPAJANI span protein agenein (Limmun)     12       AC     PO00000     TLLU Obtainity receine (Tage may after 1 charre agenein (Limmun))     12       AC     PO00000     TLLU Obtainity receine (Tage may after 1 charre agenein (Limmun))     12       AC     PO00000     RAVI agenein (Limmu agenein (Limmun))     12       AC     PO00000     RAVI agenein (Limmun)     12       AC     PO000000     RAVI agenein (Limmu agenein (Limmun))     12       AC     PO000000     RAVI agenein (Limmu agenein (Limmun))     12       AC     PO000000     RAVI agenein (Limmu agenein (Limmun))     12       AC     PO000000     RAVI agenein (Limmu agenein (Limmu agenein (Limmu agenein (Limmun))       AC     PO0000000     R	I (iman)		•			
A)         PERCICED Measure multial methons. Xinited, family member XI (Herro agree (furman))         158           A)         PORSION         PERCICED Measure multial methons statement from space (furman))         128           A)         PORSION         EAU Organization factor Vill associated (I (Herro agree (furman))         128           A)         PORSION         EAU Company from Xinitial and method and from the multial admined (furman)         128           A)         PORSION         EAU Company from Xinitial admined from the multial admined (furman)         128           A)         PORSION         EAU Company from Xinitial admined from the xinitial admined (furman)         128           A)         PORSION         EAU Company from Xinitial admined from the multial admined (furman)         128           A)         PORSION         EAU Company from Xinitial admined from the multial admined (furman)         128           A)         PORSION         EAU Company from Xinitial admined (furman)         128           A)         PORSION         EAU Company from Xinitial admined (furman)         128           A)         PORSION         EAU Company from Xi (furno agree (furman))         128           A)         PORSION         EAU Company from Xi (furno agree (furman))         128           A)         PORSION         EAU Company from Xi (furno agree (furman)) <td>/ 100 I II</td> <td>1.075006919</td> <td>D</td> <td>0</td> <td>0</td> <td>2.42E-11</td>	/ 100 I II	1.075006919	D	0	0	2.42E-11
ACI TORONS         TELOCIED: Resear and interference propertionicities - globacy fatters and trensin inviroidog 2 (TPTE2), mFlok (MA, DIS120066)         12           ACI TORONS         TELO BADIN Tyres and the three superior (human)]         12         12           ACI TORONS         TELO BADIN Tyres and the three superior (human)]         12         12           ACI TORONS         TELO BADIN Tyres and the three superior (human)]         12         12           ACI TORONS         TELO BADIN Tyres and three superior (human)]         12         12           ACI TORONS         TELO BADIN Tyres and three superior (human)]         12         12           ACI TORONS         TELO BADIN Tyres and three superior (human)]         12         12           ACI TORONS         TELO BADIN Tyres and three superior (human)]         12         12           ACI TORONS         TELO BADIN TARGE submet to three superior (human)]         12         12           ACI TORONS         TELO BADIN TARGE submet to three superior (human)]         12         12           ACI TORONS         TELO BADIN TARGE submet to three superior (human)]         12         12           ACI TORONS         TELO BADIN TARGE submet to three superior (human)]         12         12           ACI TORONS         TELO BADIN TARGE submet to three superior (human)]         12         12         12	d. family member A1 [ Homo sapiens (human) ]	1.938011776	0	0	0	5.81E-09
<ul> <li>A.D. FORDIGO</li> <li>A.D.</li></ul>	de 3-phosphatase and tensin homolog 2 (TPTE2), mRNA [XM 015120686]	1.221954473	0	0	0	8.51E-09
AD         PORSSE         FAAT cangitation factor value of submer (human)]         100           AD         PORSSE         FAAT cangitation factor values (submer)]         212           AD         PORSSE         FAAT cangitation factor values submer (human)]         212           AD         PORSSE         FAAT cangitation factor values submer (human)]         212           AD         PORSSE         FAAT cangitation factor values expression (human)]         212           AD         PORSSE         FAAT cangitation factor values (human)]         212           AD         PORSSE         Candifactor values expression (human)]         212           AD         PORSSE         CASE for house appents (human)]         212           AD         PORSSE         CASE for house appents (human)]         212           AD         PORSSE         CASE for house appents (human)]         22           AD         PORSSE         CASE for house appents (human)]         22           AD         PORSSE         CASE for house appents (human)]         23           AD         PORSSE         CASE for house appents (human)]         24           AD         PORSSE         CASE for house appents (human)]         23           AD         PORSSE         CASE for house appents (human)]<	1	1.845640839	0	0	0	1.25E-08
AC         DPRISE         EAA1 coagliation factor VIII associated 1 ( Homo againse (human))         212           AC         DPRISE         EAA1 coagliation factor VIII associated 1 ( Homo againse (human))         213           AC         DPRISE         EAAP memocrain 2 memory and estafrant (h momo againse (human))         213           AC         DPRISE         EAAP memocrain 2 memory accessory prefini (h momo againse (human))         213           AC         DPRISE         EAAP memocrain 2 memory accessory prefini (h momo againse (human))         223           AC         DPRISE         EAAP accelerated (2 memo againse (human))         223           AC         DPRISE         EAAP accelerated adamine (human)         223           AC         DPRISE         EAAP accelerated (Human)         223           AC <td>1.</td> <td>1.693527458</td> <td>0</td> <td>0</td> <td>0</td> <td>3.44E-08</td>	1.	1.693527458	0	0	0	3.44E-08
A. D. 201635     Constraints     Con	[] 2	2.122188732	0	0	0	6.39E-08
<ul> <li>A.D. FORLAGZ, CARCZ, Datasium of subfamily (O methics 2 (Herror support furmar))</li> <li>A.D. FORLAGZ, Statistime of subfamily (O methics 2 (Herror support furmar))</li> <li>A.D. FORLAGZ, Statistime of the method of 1 (Herror support furmar))</li> <li>A.D. FORLAGZ, Statistime of the method of 1 (Herror support furmar))</li> <li>A.D. FORLAGZ, Statistime of the method gravity (1 Herror support furmar))</li> <li>A.D. FORLAGZ, Statistime of the method gravity (1 Herror support furmar))</li> <li>A.D. FORLAGZ, C.C.S. FORLAGZ, Statistime of (Herrors)</li> <li>A.D. FORCES</li> <li>C.R.P.J. Controlment P.G.G muth box apprint (furmar))</li> <li>A.D. FORCES</li> <li>S.T.T. syndardization (2 (Herror support furmar))</li> <li>A.D. FORCES</li> <li>S.T. Syndas method gravity (1 Herror support furmar))</li> <li>A.D. FORCES</li> <li>S.S. Strability (1 Herror support furmar))</li> <li>A.D. FORCES</li> <li>A.D. FORCES</li> <li>A.D. FORCES</li> <li>A.D. FORCES</li> <li>S.S. Strability (1 (Herror support furmar))</li> <li>A.D. FORCES</li> <li>FORCES</li> <li>FORCES method (Herror support furmar))</li> <li>A.D. FORCES</li> <li>FORCES</li> <li>F</li></ul>		1.293673765	0	0	0	2.01E-07
ACI POTATION	ar 2 [ Homo serviens (human) ]	1.339743811	0	0	0	2.08E-07
A. D. 201511.     Careford, SAST Careford, antisticne approx (turnam)     0.00       A. D. 201588.     P. F. K. Francis, A. S. C. D. Standing, A. S. Marriny, A. Marriny, M. Marriny	The second se	1.729281549	0	0	0	2.54E-07
AD         PPIAS francing frame in lets ( <i>Herron subines</i> ( <i>Jurnan</i> ))         0           AD         PPIAS francing frame (all lets) in subines ( <i>Jurnan</i> ))         0           AD         PPIASS         Construction (CZ) (Herron subjeres ( <i>Jurnan</i> ))         0           AD         PPIASS         Construction (CZ) (Herron subjeres ( <i>Jurnan</i> ))         0           AD         PPIASS         COST COST molecular (CZ) (Herron subjeres ( <i>Jurnan</i> ))         0           AD         PPIASS         COST COST molecular (CZ) (Herron subjeres ( <i>Jurnan</i> ))         0           AD         PPIASS         COST COST molecular (CZ) (Herron subjeres ( <i>Jurnan</i> ))         0           AD         PPIASS         COST COST molecular (CZ) (Herron subjeres ( <i>Jurnan</i> ))         0           AD         PPIASS         PPIASS         PPIASS         PPIASS         0         0           AD         PPIASS         PPIASS         PPIASS         PPIASS         0	man)] 0	0.967763143	0	0	0	3.39E-07
AD     PD16868     CPPA A Controlments PAGI (antimute 2 (Annor againer (furman))     156       AD     PD16868     CPPA A Controlments PAGI (antimute 2 (Annor againer (furman))     234       AD     PD17558     CCSS molecule (Corrent location) (antimute 2 (Annor againer (furman))     234       AD     PD17558     CCSS molecule (Corrent location) (antimute 2 (Annor againer (furman))     234       AD     PD0558     SYT S syndhagent (Annor againer (furman))     234       AD     PD0558     SYT S syndhagent (A) (Annor againer (furman))     233       AD     PD0558     SYT S syndhagent (A) (Annor againer (furman))     232       AD     PD0558     LARCE (La furbura caginer (furman))     232       AD	9	0.997523423	2.470752434	0.118019743	0.23124571	3.90E-07
A. 10, 20186         A. 20186	1 nan)1	1.958272719	0	0	0	5.56E-07
A. 1. 70085     MWOXWW formin creating of dependential ( Horn a agiver furmar))     2.34       A. 1. 70085     CGSS relation ( Construction domain creating of point) ( Horn a agiver furmar))     1.32       A. 1. 70085     SYT 3 yind adgree ( Construction domain creating ( Horn a agiver furmar))     1.32       A. 1. 70085     SYT 3 yind adgree ( Construction domain creating ( Horn a agiver furmar))     1.32       A. 1. 70085     SYT 3 yind adgree ( Construction domain creating ( Horn a agiver furmar))     1.32       A. 1. 70085     SYT 3 yind adgree ( Construction domain creating ( Horn a agiver furmar))     1.32       A. 1. 70085     SYT 3 yind adgree ( furmar))     1.32       A. 1. 700815     Jone ( Horn adgree ( furmar))     1.32       A. 1. 700817     Jone ( Horn adgree ( furmar))     1.32       A. 1. 700817     Jone ( Horn adgree ( furmar))     1.32       A. 1. 700817     Jone ( Horn adgree ( furmar))     1.32       A. 1. 700817     Jone ( Horn adgree ( furmar))     1.32       A. 1. 700817     Jone ( Horn adgree ( furmar))     1.32       A. 1. 700817     Jone ( Horn adgree ( furmar))     1.37       A. 1. 700817     Jone ( Horn adgree ( furmar))     1.37       A. 1. 700817     Jone ( Horn adgree ( furmar))     1.37       A. 1. 700817     Jone ( Horn adgree ( furmar))     1.37       A. 1. 700817     Jone ( Horn adgre	Homo saviens (human) 1	1.535634405	0	0	0	6.56E-07
A. 1971/2013         CCSS Tradiental (Comment Boord group) [14/ms requires (furmaru)]         14           A. 1971/2013         STT 2 synaptidagrim 2 (14/ms requires (furmaru))         14           A. 1970/2013         STT 2 synaptidagrim 2 (14/ms requires (furmaru))         14           A. 1970/2013         STT 2 synaptidagrim 2 (14/ms requires (furmaru))         16           A. 1970/2013         STT 2 synaptidagrim 2 (14/ms requires (furmaru))         12           A. 1970/2013         EPH40 EPH treaspits (furmaru)         12           A. 1970/2013         EPH40 EPH treaspits (furmaru)         12           A. 1970/2013         EPH40 EPH40 EPH treaspits (furmaru)         12           A. 1970/2013         EVM42 Empirit (furmaru)         12           A. 1970/2013         EVM43 Empirit (furmaru)         12           A. 1970/2013         EVM13 Empirit (furmaru)         12           A. 1970/2013         EVM13 Empirit (furmaru)         12	ans (himman) ] 2	2.341535428	0	0	0	7.17E-07
A. 10, 10,1638     ST2 Syndrodgenia Z (Abron standard pri Scance HSAC Syntaxi Acc	-1	-1 938041253	0.390481911	-1.771757462	-1.468369828	8.33E-07
Cui 700087         PTZ 3 pragradgeting 2 (Herno stageter (furmar))         165           Cui 700087         PTZ 3 pragradgeting 2 (Herno stageter (furmar))         126           Cui 700087         Price Structural many restruction downling contraining 1 (Source HCMC Symbol Acc: HCMC 22234] [ENSIM/UT000000667]         123           Cui 700087         Private Structural many restruction downling contraining 1 (Source HCMC Symbol Acc: HCMC 22234] [ENSIM/UT000000667]         123           Cui 700087         ENHold EPH receptor A8 (Horno supters (furmar))         126           Cui 700087         ENHold EPH receptor A8 (Horno supters (furmar))         128           Cui 700087         ENHold EPH receptor A8 (Horno supters (furmar))         128           Cui 700087         ENHold EPH receptor A8 (Horno supters (furmar))         128           Cui 700087         FURCH END supters (furmar))         128           Cui 700087         FURCH END supters (furmar))         128           Cui 700087         FURCH END supters (furmar))         128           Cui 700088         FURCH END supters (furmar))         128           Cui 7000888         FURCH	f (munu)	-1.495028301	1.78144712	-0.026925705	0.129720193	9.82E-07
A. D. 70038     Carter of style and a consult and y method of febric adore (Arc Edit Acc Edit C 22234 [EISIM/UT000000067]     122       A. D. 70038     Carter of a consult and y method of febric adore (yurma)]     23       A. D. 70038     Carter of a consult and y method of febric adore (yurma)]     23       A. D. 70038     Land El Hence (agore (yurma)]     23       A. D. 70038     Land El Hence (grant () febric adore (yurma)]     23       A. D. 70038     Land El Hence (grant () febric adore (yurma)]     23       A. D. 70038     Land El Hence (grant () febric adore (yurma)]     23       A. D. 70038     Land El Hence (grant () febric adore () fe		1 652394402	0	0	0	1.03E-06
A. U. POROSS         ARPPS La relonuciespretein dennain family imentariae ( 1 Abron suptime ( furman))         2.34           A. D. POROSS         AMRS Hencegor / A1 Abron suptime ( mam)         1.11         1.25           A. D. POROSS         EMA BE Hencegor / A1 Abron suptime ( mam)         1.11         1.12           A. D. POROSS         EMA Be and ( Abron suptime ( mam))         1.11         1.12           A. D. POROSS         EMA Be and ( Abron suptime ( mam))         1.11         1.12           A. D. POROSS         EMA Be and ( Abron suptime ( mam))         1.11         1.12           A. D. POROSS         EMA Be and ( Abron suptime ( mam))         1.11         1.12           A. D. POROSS         EMA Be and ( Abron suptime ( mam))         1.11         1.12           A. D. POROSS         EMA Be and ( Abron suptime ( humm))         1.11         1.12           A. D. POROSS         EMA Be and ( Abron suptime ( humm))         1.11         1.12           A. D. POROSS         TACR1 Barbine ( Abron suptime ( humm))         1.11         1.12           A. D. POROSS         TACR3 Barbine ( Abron suptime ( humm))         1.12         1.12           A. D. POROSS         TACR3 Barbine ( Abron suptime ( humm))         1.12         1.12           A. D. POROSS         TACR3 Barbine ( Abron suptime ( humm))         1	Irree HGNC Symbol: Acc: HGNC 222341 [ENSMMUT00000052657]	1.225153081	0	0	0	1.04E-06
A.D.         Problem         Private State	saniens (human) 1 -2	-2.348993257	0	0	-1.390912227	1.13E-06
A. U. Pro18685 A. U. Pro18685 A. U. Pro18685 A. U. Pro18685 A. U. Pro1868 E. Henceptor A& Hence agents (human)] A. U. Pro1868 E. Hence agents (human)] A. U. Pro1868 E. Hence agents (human)] A. U. Pro1868 I. HELCHEL Meacam and the hence agents (human)] A. U. Pro1868 I. HELCHEL Meacam and the hence agents (human)] A. U. Pro1868 I. Pro1868 I. Hence agents (human)] A. U. Pro1868 I. Pro1868 I. Hence agents (human)] A. U. Pro1868 I. HELCHEL Meacam and the hence agents (human)] A. U. Pro1868 I. HELCHEL Meacam and the hence agents (human)] A. U. Pro1868 I. HELCHEL M		1.787258288	0	0	0	1.33E-06
A. D. FORDERS         Leven Same (All Even same (All Even same)         173           A. D. FORDERS         LANC3 Immin under gennen (All Even same)         113           A. D. FORDERS         LANC3 Immin under gennen (All Even same)         113           A. D. FORDERS         LANC3 Immin under gennen (All Even same)         115           A. D. FORDERS         LANC3 Immin under gennen (All Even same)         115           A. D. FORDERS         LANC3 Immin under gennen (All Even same)         115           A. D. FORDERS         LANC3 Immin under gennen (All Imma)         125           A. D. FORDERS         FERCH Back (Ferro adjame (All Imma))         127           A. D. FORDERS         FERCH Back (Ferro adjame (All Imma))         17           A. D. FORDERS         FERCH Back (Ferro adjame (All Imma))         17           A. D. FORDERS         FERCH Back (Ferro adjame (All Imma))         17           A. D. FORDER         FERCH Back (Ferro adjame (All Imma))         17           A. D. FORDER         FERCH Back (Ferro adjame (All Imma))         17           A. D. FORDER         FERCH Back (Ferro adjame (All Imma))         17           A. D. FORDER         FERCH Back (Ferro adjame (All Imma))         17           A. D. FORDER         FERCH Back (Ferro adjame (Imma))         16           A. D. FORDER <td></td> <td>1.655112909</td> <td>0</td> <td>0</td> <td>0</td> <td>1.39E-06</td>		1.655112909	0	0	0	1.39E-06
<ol> <li>A.D. FORSTER, M.M. Call Brain, Informa 31 (Horne apprent (furman))</li> <li>A.D. FORSTER, Information 58 bean (Horne apprent (furman))</li> <li>A.D. FORSTER, Information 58 bean (Horne)</li> <li>A.D. FORSTER, Information 58 (Horne apprent (Horne))</li> <li>A.D. FORSTER, Information 58 (Horne apprent (Horne))</li> <li>A.D. FORSTER, Respiration 68 (Horne apprent (Horne))</li> <li>A.D. FORSTER, Respiration 65 (Horne apprent (Horne))</li> <li>A.D. FORSTER, Respiration 75 (Horne apprent</li></ol>	-	1.732330175	0	0	0	1.55E-06
<ol> <li>Concession E. S. Cardinal Benef (Harron againers (hurman))</li> <li>C. C. S. Cardinal Benef (Haron againers (hurman))</li> <li>C. C. S. Cardinal Benef (Haron againers (hurman))</li> <li>C. D. Concession E. S. Cardinal Reserved (Harona)</li> <li>C. D. C. S. Cardinal Beneficies (E. Haron againers (hurman))</li> <li>C. D. Concession E. S. Harona S. Cardinal Forto againers (hurman))</li> <li>C. D. Concession E. S. Harona S. Cardinal Forto againers (hurman))</li> <li>C. D. Concession E. S. Harona S. Cardinal Forto againers (hurman))</li> <li>C. D. Concession E. S. Harona S. Cardinal Forto againers (hurman))</li> <li>C. D. Concession E. S. Harona S. Cardinal Forto againers (hurman))</li> <li>C. D. Concession E. S. Harona S. Cardinal Forto againers (hurman))</li> <li>C. D. Concession E. S. Harona S. Cardinal Forto againers (hurman))</li> <li>C. D. Concession E. S. Harona S. Cardinal Forto againers (hurman))</li> <li>C. D. Concession E. S. Harona S. Cardinal Forto againers (hurman))</li> <li>C. D. Concession E. S. Harona S. Cardinal Forto againers (hurman))</li> <li>C. D. Concession E. S. Harona S. S. Harona S. Cardinal Forto againers (hurman))</li> <li>C. D. Concession E. S. Harona saginers (hurman))</li> <li>C. D. Concession E. S. Harona saginere (hurman))</li> <li< td=""><td>-</td><td>1.650775186</td><td>0</td><td>0</td><td>0</td><td>1.72E-06</td></li<></ol>	-	1.650775186	0	0	0	1.72E-06
A.D. FODDIST     Christing Structure interford (Takhonia)     11,1       A.D. FODDIST     SEMARB sendemon (B) (Hanne ageiner (furman))     07,2       A.D. FODDIST     SEMARB sendemon (B) (Hanne ageiner (furman))     07,2       A.D. FODDIST     SEMARB sendemon (B) (Hanne ageiner (furman))     07,2       A.D. FODDIST     REXP16A Set 2014 (Set 2) (Hanne ageiner (furman))     07,2       A.D. FODDIST     REXCB sendemon (B) (Hanne ageiner (furman))     07,2       A.D. FODDIST     REXCB sendemon (B) (Hanne ageiner (furman))     07,2       A.D. FODDIST     REXCB sendemon (B) (Hanne ageiner (furman))     07,2       A.D. FODDIST     REXCB sendemon (Reveal C) (Hanne ageiner (furman))     07,3       A.D. FODDIST     REXCB sendemon (Reveal C) (Hanne ageiner (furman))     07,3       A.D. FODDIST     REXCL (Reform (Reveal C) (Hanne ageiner (furman))     07,3       A.D. FODDIST     REXCL (Reform (Reveal C) (Hanne ageiner (furman))     07,4       A.D. FODDIST     REXCL (Reform (Reveal C) (Hanne ageiner (furman))     07,4       A.D. FODDIST     REXCL (Reform (Reveal C) (Hanne ageiner (furman))     07,6       A.D. FODDIST     REXCL (Reform (Reveal C) (Hanne ageiner (furman))     07,6       A.D. FODDIST     REXCL (Reform (Reveal C) (Hanne ageiner (furman))     07,6       A.D. FODDIST     REXCL (Reform (Reveal C) (Hanne ageiner (furman))     07,6		1.523378984	0	0	0	1.80E-06
<ol> <li>A. D. PODOLIO</li> <li>A. D. SURABG seminimal (E. Harron sugners (human))</li> <li>A. D. PODOLIO</li> <li>PECA-FILARS Stanholm (Perpendianae: Stanhold (Horron sugners (human))</li> <li>A. D. PODOLIO</li> <li>PECA-FILARS Stanholm (Perpendianae: Stanhold (Horron sugners (human))</li> <li>A. D. PODOLIO</li> <li>PECA-FILARS Stanholm (Perpendianae: Stanhold (Horron sugners (human))</li> <li>A. D. PODOLIO</li> <li>PECA-FILARS Stanholm (Perpendianae: Stanhold (Horron sugners (human))</li> <li>A. D. PODOLIO</li> <li>PECA-FILARS Stanhold (Fundo (Horron Stanhold (Horron sugners (human)))</li> <li>A. D. PODOLIO</li> <li>PECA-FILARS Stanhold (Fundo (Horron Stanhold (Horron sugners (human)))</li> <li>A. D. PODOLIO</li> <li>PECA-FILARS Stanhold (Fundo (Horron Stanhold (Horron sugners (human)))</li> <li>A. D. PODOLIO</li> <li>PECA-FILARS Stanhold (Fundo (Horron Stanhold (Horron sugners (human)))</li> <li>A. D. PODOLIO</li> <li>PECAFI (Horron sugners (human))</li> <li>A. D. PODOLIO</li> <li>PODOLIO</li> <li>PODOLIO</li></ol>		1.78915129	0	0	0	1.82E-06
A. Dronoid and Carrier and Car	0	0.704670267	0	0	-0.102448085	1.92E-06
<ol> <li>Chi (20000)</li> <li>PEPCSA, Princhen (Properdiante - Althoric submits (human))</li> <li>A. (1) PEDCSA</li> <li>PEDCSA, PEPCSA, Princhen (Properdiante - Zhanny Supports (human))</li> <li>A. (1) PEDCSA</li> <li>PEDCSA, Princhen (Properdiante - Zhanny Supports (human))</li> <li>A. (1) PEDCSA</li> <li>PEDCSA princhen (human - ZHA)</li> <li>A. (1) PEDCSA</li> <li>PEDCSA princhen (human)</li> <li>A. (1) PEDCSA</li> <li>PEDCSA princhen (human)</li> <li>A. (1) PEDCSA</li> <li>PEDCSA princhen (human)</li> <li>PEDCSA princhen (human)</li> <li>A. (1) PEDCSA</li> <li>PEDCSA princhen (human)</li> <li>PEDCSA princhen (human)</li> <li>PEDCSA</li> <li>PEDCSA princhen (human)</li> <li>PEDCSA</li> <li>PEDCSA princhen (human)</li> <li>PEDCSA</li> <l< td=""><td>l (human) ]</td><td>1.703551687</td><td>0</td><td>0</td><td>0</td><td>1.99E-06</td></l<></ol>	l (human) ]	1.703551687	0	0	0	1.99E-06
<ol> <li>Chi Chi Chi Chi Chi Chi Chi Chi Chi Chi</li></ol>	-2	-2.818907521	0	0	0	2.16E-06
<ol> <li>Chi 200000</li> <li>Chi 200000</li> <li>Chi 200000</li> <li>Chi 200000</li> <li>Chi 200001</li> <li>Reuzi PROJ and CER (line Chi aptenti (fumumo))</li> <li>Chi 200001</li> <li>Reuzi PROJ and CER (line Chi aptenti (fumumo))</li> <li>Chi 200011</li> <li>Reuzi PROJ and CER (line Chi aptenti (fumumo))</li> <li>Chi 200011</li> <li>Reuzi PROJ and CER (line Chi aptenti (fumumo))</li> <li>Chi 200011</li> <li>Reuzi PROJ and CER (line Chi aptenti (fumumo))</li> <li>Chi 200011</li> <li>Reuzi PROJ and CER (line Chi aptenti (fumumo))</li> <li>Chi 200011</li> <li>Coult of Emission (fumumo)</li> <li>Coult of Emision (fumumo)</li> <li>Coult of E</li></ol>	no sapiens (human)]	-1.886692631	0	0	0	2.18E-06
<ol> <li>Chi Dri Xia, Tai Reiz, ReyLo and Reiz Liehon sagieres (human)]</li> <li>A.D. PO05681</li> <li>I. (1) GRB immediation (D respect rubane) bata (Horno sagieres (humane))</li> <li>A.D. PO05681</li> <li>I. (1) GRB immediation (D respect rubane) bata (Horno sagieres (humane))</li> <li>A.D. PO05681</li> <li>I. REYL, ST Show (In Sci Horno sagieres (humane))</li> <li>A.D. PO05081</li> <li>I. REYL, ST Show (In Sci Horno sagieres (humane))</li> <li>A.D. PO05081</li> <li>I. REYL, ST Show (In Hornor (Horno sagieres (humane))</li> <li>A.D. PO05082</li> <li>C.D. PO05025</li> <li>C.U.N. Internation (Horno sagieres (humane))</li> <li>A.D. PO05025</li> <li>C.D. PO05025</li> <li>R.D. D. R.R. POUED POUED (Horno sagiers (humane))</li> <li>A.D. PO05035</li> <li>R.D. PO05025</li> <li>R.D. PO05025<td>1</td><td>1.555930547</td><td>0</td><td>0</td><td>0</td><td>2.72E-06</td></li></ol>	1	1.555930547	0	0	0	2.72E-06
<ol> <li>Ch 200586. In Chronol Render Schlamp (Junnan).</li> <li>Ch 200586. The Chronol Render Schlamp (Junnan).</li> <li>Ch 200516. The Schlamp (Junnan).</li> <li>Ch 200517. Calcular Internance (Lehron suptime (Junnan).</li> <li>Ch 200517. Calcular Internance (Lehron suptime (Junnan).</li> <li>Ch 2005176. Filter Schlamp (Lehron suptime (Junnan).</li> <li>Ch 2005176. Filter Schlamp (Lehron suptime (Junnan).</li> <li>Ch 2005177. PROSE (Schlam Lehron suptime (Junnan).</li> <li>Ch 2005177. PRED/CED Massam and an action relative (Schlam LehrCic). Firld Mu (JUD000000569]</li> <li>Ch 200517. PROSE (PROSE (Province) (Schlam Lehron).</li> <li>Ch 200517. PROSE (PROSE (Schlam Lehron).</li> <li>Ch 200517. PROSE (PROSE (Province) (Schlam Lehro).</li> <li>Ch 200517. PROSE (PROSE (Province) (Schlam Lehr</li></ol>	an)]	1.541066138	0	0	0	4.64E-06
<ol> <li>Che 2006301</li> <li>Shey Shey Shey May Bruker Restrict Mannah J</li> <li>A. O. POROTES</li> <li>A. O. POROTE</li> <li>A. O. POROTES</li> <li>A. O. POROTES</li> <li>A. O. POROTES</li> <li>A. O. POROTES</li> <li>A. D. POROTE</li> <li>A. O. POROTES</li> <li>A. D. POR</li></ol>	-1-	-1.610011716	2.208213686	0.011586729	0.422466279	5.10E-06
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<ol> <li>A. D. FDOGKSE Interchendial inductional SZT (Scince HSX C: Syntholic C: HSX 12] [ENSMM/UT0000007656]</li> <li>A. D. FDOGKSE TROODE TITOD and "activity approxing theory approximation to the total approximation to the total approximation to the total approximation to the total approximation of the total approximation to the t</li></ol>	1 ] 1	1.578594952	0	0	0	6.78E-06
<ol> <li>D. PODGKS</li> <li>R. M. Charles PHC and Cardin grading (<i>Lenso</i> sagieser (human)).</li> <li>A. D. PONGSEI</li> <li>G. PONGSEI</li> <li>G. PONGSEI</li> <li>G. PONGSEI</li> <li>G. PONGSEI</li> <li>G. PONGSEI</li> <li>FREEDCEED: Mackare midiate of (<i>Herron sagieser</i> (human)).</li> <li>A. D. PONGSEI</li> <li>FREEDCEED: Mackare midiate of (<i>Herron sagieser</i> (human)).</li> <li>A. D. PONGSEI</li> <li>FREEDCEED: Mackare midiate of (<i>Herron sagieser</i> (human)).</li> <li>A. D. PONGSEI</li> <li>FREEDCEED: Mackare midiate Draul (<i>Herlon sagieser</i> (human)).</li> <li>A. D. PONGSEI</li> <li>A. D. PONGSEI</li> <li>FREEDCEED: Mackare midiate Draul (<i>Herlon sagieser</i> (human)).</li> <li>A. D. PONGSEI</li> <li>FREEDCEED: Mackare midiate Draul (<i>Herlon sagieser</i> (human)).</li> <li>A. D. PONGSEI</li> <li>FREEDCEED: Mackare midiate Draul (<i>Herlon sagieser</i> (human)).</li> <li>A. D. PONGSEI</li> <li>FREEDCEED: Mackare midiate Draul (<i>Herlon sagieser</i> (human)).</li> <li>A. D. PONGSEI</li> <li>FREEDCEED: Mackare midiate Draul (<i>Herlon sagieser</i> (human)).</li> <li>A. D. PONGSEI</li> <li>FREEDCEED: Mackare midiate Draul (<i>Herlon sagieser</i> (human)).</li> <li>A. D. PONGSEI</li> <li>FREEDCEED: Mackare midiate Draul (<i>Herlon sagieser</i> (human)).</li> <li>A. D. PONGSEI</li> <li>FREEDCEED: Mackare midiate Draul (<i>Herlon sagieser</i> (human)).</li> <li>A. D. PONGSEI</li> <li>FREEDCEED: Mackare midiate diversione (<i>CXXC</i> midi) (halid midiate (<i>Herlon Sagieser</i>) (</li></ol>	Acc: HGNC: 14512] [ENSMMUT00000070559]	1.802204642	0	0	0	7.88E-06
<ol> <li>A. Di PO14661 (2016)</li> <li>G. Ageleco Gordinane de l'Arron supere (jurnuno))</li> <li>A. Di PO16026</li> <li>PEEDOFED Mascan andatta testi dy domain containing 2 (LINGCC), mFlvk (pM, 002600071)</li> <li>L. 2016</li> <li>A. Di PO05055</li> <li>A. Di PO05051</li> <li>A. Si and anga and and and and and and and and and an</li></ol>	uman)]	1.679785677	0	0	0.087840967	1.03E-05
<ol> <li>A. D. POSOST, PEREDCIED Mean and and usine into meat and ig domain containing 2 (LNSCO), mFWA (NA_002800071)</li> <li>A. D. POSOSSE, F.ZM fitzled class receptor 41 (Horo sapiens (human)</li> <li>A. D. POSOSSE, A.ZM fitzled class receptor 41 (Horo sapiens (human)</li> <li>A. D. POSOSSE, A.ZM fitzled class receptor 41 (Horo sapiens (human)</li> <li>A. D. POSOSSE, A.ZM fitzled class receptor 41 (Horo sapiens (human)</li> <li>A. D. POSOSSE, A.ZM fitzled class receptor 41 (Horo sapiens (human)</li> <li>A. D. POSOSSE, A.ZM fitzled class receptor 41 (Horo sapiens (human)</li> <li>A. D. POSOSSE, P. REELCIED: MANUEDOCOCOSS41)</li> <li>A. D. POSOSSE, P. REELCIED: Recent and and remonsion (CAX crash) (japa)</li> <li>A. D. POSOSSE, P. REELCIED: Recent and and remonsion (CAX crash) (japa)</li> <li>A. D. POSOSSE, P. REELCIED: Recent and and remonding (J. CAX L); MANU (M) (151:40894)</li> <li>A. D. POSOSSE, P. REELCIED: Recent and and remonding J. (CAX L); MANUE, MANU</li></ol>	human)]	1.245720233	0	0	0	1.09E-05
<ol> <li>A Di PODGISE A DAM Manda Davengora (H-mora suppres (human))</li> <li>A Di PODGISE ADM Mandalogadikase with investoration for investoration (human)</li> <li>A Di PODGISE ADM Mandalogadikase with investoration for investoration (human)</li> <li>A Di PODGISE ADM Mandalogadikase with investoration (human)</li> <li>A Di PODGISE ADM REDCOLED MANDALONA</li> <li>A DI PODGISE ADM</li></ol>	ain containing 2 (LINGO2), mRNA [XM_002800071]	1.39474713	0	0	0	1.33E-05
A 01 P005315 ADM mediatopotidase with trannacenoral type 1 mark 21 Source HSNC Symbol Xoc HSNC 220 [BISSMM10000005641] 1-168 1-01 P0155559 PREDICTED Measure mulated Dna (Hep40) homolog subfamily B, member 11 (DNA,BI1), mRNR (MA_00101659] 0-018 A 01 P0105551 ANA angropsimi (H-zmor subfamily B, member 11 (DNA,BI1), mRNR (MA_00101659] 2-216 A 01 P0105557 PREDICTED Measure mulated homolog subfamily B, member 11 (DNA,BI1), mRNR (MA_00101659] 2-216 A 01 P0105557 PREDICTED Measure mulated homolog subfamily B, member 11 (DNA,BI1), mRNR (MA_00101659] 2-216 A 01 P010557 PNM PERCEDICTED Measure mulated homolog subfamily B, member 11 (DNA,BI1), mRNR (MA_00101659] 2-216 A 01 P010557 PNM PERCEDICTED Measure mulated homolog subfamily B, member 10 P01057 A 01 P010557 PNM PARCED P0105457 P0105557 PNM PARCED P010557 P0105557 PNM P0105557 P0105557 PNM P0105557 P0105557 PNM P01055557 P0105557 PNM P01055557 P0105557 PNM P01055557 P0105557 P01055557 PNM P01055557 P0105557 P0105557 P0105557 P0105		-2.149651068	1.421525723	-0.049240965	0.266166734	1.35E-05
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A. Or. PO18201 ANG anglogenin (Herror septents (human)) (P. 1005557) E. REELCIETE Materia and adda control (EXXC modif) igand 12 (CCL15), transcript variant X0, mRVM (MM_015)448849 0. Or. PO17777. CNH4. Accordino, fearly, MAX. accordin value). 41 (Horror sentines (human)). 4. Or. PO17757. CNH4. Accordino, fearly, MAX. accordination of 11 Horror sentines (human). 4. Or. PO17757. CNH4. Accordination of 11 Horror sentines (human). 4. Or. PO17757. CNH4. CONCINCT, PO1874. PO1	mily B, member 11 (DNAJB11), mRNA [XM_001091858]	-0.959880885	1.615331811	1.012488459	0.308243661	1.53E-06
A_01_P008576 PREDICTED Macaca mulatta chemokine (CXC motif) ligand 12 (CXC12), transcript variant X3, mRtvk (M_01514884) 4 or P007770 CXHL4 connicion family AMMA reventiva auxiliary tratinin 41 Horns saviense finaman)1		-2.182916655	1.43747262	-1.930852499	-0.837917215	1.61E-05
A 01 P002720 CNIE4 comichon family AMPA recentor auxiliary profein 4 [ Hamo sapiens (human) ]	d 12 (CXCL12), transcript variant X3, mRNA [XM_015146894] 0	0.041080614	3.971054733	0.682998768	0	1.62E-05
	forno sapiens (human)]	-0.7668468	1.498210563	0.527656269	0.574219313	1.81E-05
A_01_2009023 PREDICTED: Macaca mulatta insulin-like growth factor binding protein 7, transcript variant 4 (IGFBP7), mRVA [7M_001083041] -1.46	ng protein 7, transcript variant 4 (IGFBP7), mRNA [XM_001083041] -1	-1.481873816	4.023203989	1.021473549	1.006494796	1.81E-05
A_01_p008865 GRK5 G protein-coupted receptor kinase 5 [ Homo sapters (human) ]	human)]	1.135201541	0	0	D	2.01E-U5

Supplemental Figure 1. Clinical markers of SIV  $\Delta$  GY co-infection and *Mtb*/CD4R1 administration. All animals were monitored for clinical signs of disease. *Mtb* CDC1551infected LTBI (n=10, shown in blue), *Mtb*/SIVmac239 co-infected non-reactivators (n=7, shown in teal), *Mtb*/SIVmac239 co-infected reactivators (n=8, shown in yellow), *Mtb*/SIV $\Delta$ GY co-infected (n=5, shown in pink), and *Mtb*/CD4R1-administered NHPs (n=8, shown in red). These included (A) serum C-reactive protein (CRP), which was measured weekly. (B) Bacterial burden was measured once every four weeks beginning at 1 week pre-infection with *Mtb* CDC1551. Bacterial burden was measured at necropsy per gram of tissue plated of (C) spleen, (D) liver, and (E) kidneys. \*P < 0.05; \*\*P < 0.01; \*\*\*P < 0.001; \*\*\*\*P <0.0001, one-way ANOVA with Tukey's multiple testing correction. Data represent mean ± SEM.

### **Supplementary Figure 1**.



Supplementary Figure 2. Total CD4<sup>+</sup> T cell depletion. CD4<sup>+</sup> T cells were quantified by flow cytometric analysis from different tissues collected from rhesus macaques that were *Mtb* CDC1551-infected LTBI (n=10, shown in blue), *Mtb*/SIVmac239 co-infected non-reactivators (n=7, shown in teal), *Mtb*/SIVmac239 co-infected reactivators (n=8, shown in yellow), *Mtb*/SIV $\Delta$ GY co-infected (n=5, shown in pink), and *Mtb*/CD4R1administered (n=8, shown in red). CD4<sup>+</sup> T cells were quantified and reported per 10,000

lymphocyte<sup>+</sup> singlet cells in the (A) whole blood and in the (B) BAL every four weeks beginning at week 7 post-*Mtb* infection/week -2 prior to SIV co-infection. SIVcoinfection was performed at week 9 post-*Mtb* for selected groups, designated by the dotted line. CD4<sup>+</sup> T cells were also quantified at necropsy in the (C) whole blood, (D) BAL, and (E) lungs. \*P < 0.05; \*\*P < 0.01; \*\*\*P < 0.001; \*\*\*\*P <0.0001, one-way ANOVA with Tukey's multiple testing correction. Data represent mean ± SEM.



Supplementary Figure 2.

Supplementary Figure 3. Necropsy Lung CD4<sup>+</sup> and CD8<sup>+</sup> T cells reflect no proportional shifts following SIVmac239-coinfection or CD4 antibody-mediated depletion. Shown in all figures are the proportion of T cell sub-populations, naïve vs. effector vs. memory, in the CD4<sup>+</sup> and CD8<sup>+</sup> T cell compartments. At necropsy, the proportion of residual effector (CD95<sup>+</sup>CD28<sup>+</sup>, shown as circles), memory (CD95<sup>+</sup>CD28<sup>+</sup>, shown as squares), and naïve (CD95<sup>-</sup>CD28<sup>+</sup>, shown as upward triangles) (A) CD4<sup>+</sup> T cells and (B) CD8<sup>+</sup> T cells in the lungs did not significantly differ between LTBI (n=10, shown in blue) and SIVmac239-coinfected NHPs (n=15, shown in black) or NHPs administered CD4R1 (n=8, shown in red). \*P < 0.05; \*\*P < 0.01; \*\*\*P < 0.001; \*\*\*\*P < 0.0001, two-way ANOVA with Tukey's multiple testing correction. Data represent mean ± SEM.

#### Supplementary Figure 3.



Supplementary Figure 4. Cytokine responses following CD4<sup>+</sup> T cell depletion due to SIV co-infection and CD4R1-administration. At week 15 post-Mtb infection and after 6 weeks of SIV-coinfection or antibody-mediated CD4<sup>+</sup> T cell depletion, the quantities of cytokines were measured in the plasma and BAL supernatant using Luminex analysis. Plasma and BAL supernatant were analyzed from Mtb CDC1551-infected LTBI (n=4, shown in blue), Mtb/SIVmac239 co-infected non-reactivators (n=3, shown in teal), Mtb/SIVmac239 co-infected reactivators (n=3, shown in yellow), Mtb/SIVAGY coinfected (n=5, shown in pink), and *Mtb*/CD4R1-administered NHPs (n=4, shown in red). The concentration of IFN- $\gamma$  was measured in (A) plasma and (B) BAL supernatant. The concentration of (C) CXCL9 was measured in the plasma. The concentration of (D) CXCL13, (E) Eotaxin, (F) I-TAC, and (G) IL-6 was measured in BAL supernatant. The concentration of (H) IL-8 and (I) MIP-1 $\beta$  was measured in plasma. The concentration of (K) SDF-1*α* was measured in BAL supernatant. \*P < 0.05; \*\*P < 0.01; \*\*\*P < 0.001; \*\*\*\*P <0.0001, one-way ANOVA with Tukey's multiple testing correction. Data represent mean ± SEM.

## Supplementary Figure 4.



Supplementary Figure 5. Activation of CD8<sup>+</sup> T cells is increased in reactivators compared to CD4R1-administered NHPs. CD8<sup>+</sup> T cell expression of HLA-DR in the lungs at necropsy was measured using flow cytometric analysis (F) and co-expression of markers of migration (CCR5 and CCR7), activation (CD69), and apoptosis (PD-1) were measured in the (G) HLA-DR<sup>+</sup> and (H) HLA-DR<sup>-</sup> T cell population. \*P < 0.05; \*\*P < 0.01; \*\*\*P < 0.001; \*\*\*\*P <0.0001, multiple T-tests with Holm-Sidak method for multiple comparison correction. Data represent mean ± SEM.

#### Supplementary Figure 5.



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