

SUPPLEMENTARY TABLE 1: MIRU-VNTR typing of clinical isolates

Patient ID	Spoligotype	960, MIRU10	1644, MIRU16	2059, MIRU20	2531, MIRU23	2996, MIRU26	3192, MIRU31, ETRE	3690, MTUB39	802, MIRU40	Lineage
0210-1193	00000000006761	3	3	2	5	7	5	3	3	Beijing
0310-1477	00000000006771	3	2	2	5	7	5	3	3	Beijing
0202-0294	00000000006371	3	3	2	5	8	5	4	4	Beijing
0307-1070	00000000006771	2	3	2	5	7	5	4	3	Beijing
0309-1399	00000000006771	3	8	2	5	6	5	4	3	Beijing
0408-1497	00000000006371	X	X	X	X	X	X	X	X	Beijing
0201-0233	777737716730771	3	2	1	5	4	3	2	3	Cameroon
0401-0012	777737716730771	X	X	X	X	X	X	X	X	Cameroon
0311-1672	777737716730771	X	X	X	X	X	X	X	X	Cameroon
0201-0221	777737716730771	X	X	X	X	X	X	X	X	Cameroon
0104-0714	777737716730771	X	X	X	X	X	X	X	X	Cameroon
0311-1654	777737716730771	3	2	1	5	4	3	2	3	Cameroon
0209-1562	775537314730371	3	3	1	5	5	3	2	3	Cameroon
0203-0524	175537377146071	4	3	2	6	2	4	3	4	EAI
0112-1995	175535277106371	4	3	2	6	2	5	2	3	EAI
0302-0187	655537377106341	4	3	2	6	2	4	1	3	EAI
0302-0341	777737340006671	4	3	2	6	2	5	3	3	EAI
0303-0485	77773777730301	4	2	2	5	2	5	2	3	EAI
0403-0498	700735717146771	4	2	2	6	2	5	3	3	EAI
0212-1868	775537307730371	3	3	2	5	4	3	2	7	Ghana
0307-1036	775537377730371	3	3	2	5	4	3	2	6	Ghana
0404-0546	77573777730771	3	3	2	5	4	3	3	5	Ghana
0212-1935	775537377730371	3	4	2	5	5	3	2	3	Haarlem
0208-1341	775537367720371	5	3	1	2	5	3	2	3	Haarlem
0210-1669	775537377730371	3	4	2	5	5	3	2	2	Haarlem
0207-1099	77773777720771	X	X	2	3	3	X	X	X	Haarlem
0202-0443	675535377720361	5	3	1	3	5	X	X	X	Haarlem?
0303-0294	775537377720371	5	3	2	3	5	3	2	3	Haarlem
0112-2032	775537377720371	5	3	2	4	5	3	2	3	Haarlem
0302-0173	777537377730371	2	3	2	5	4	2	2	2	Haarlem
0301-0144	777737377730771	3	4	2	5	5	3	2	2	Haarlem
0304-0546	000000001020771	5	3	1	3	5	3	2	3	Haarlem
0304-0547	77773777720761	5	3	1	3	5	3	2	3	Haarlem

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0305-0616	77773777730771	3	1	2	5	5	4	2	6	Haarlem
0306-0842	775737771020711	5	3	2	3	5	3	2	3	Haarlem
0305-0816	77773777720771	5	3	2	5	5	3	2	4	Haarlem
0307-1133	777737371720771	5	3	2	3	5	2	2	3	Haarlem
0210-1655	777737771020771	4	3	2	3	5	3	2	3	Haarlem
0406-1023	775537716730371	5	0	2	X	X	3	2	3	Haarlem?
0208-1361	177735671020771	5	3	2	5	5	3	2	3	Haarlem
0203-0538	775537377730761	3	1	2	5	4	3	1	4	Haarlem like
0206-0934	775537377720371	5	3	1	3	5	3	2	3	Haarlem like
0207-1146	575537371020771	5	3	2	3	5	3	2	2	Haarlem like
0305-0778	77773777730761	3	4	2	5	5	3	2	2	Haarlem like
0306-0916	777737771020751	4	3	2	3	5	3	2	3	Haarlem like
0206-0929	775527331020371	4	3	2	7	5	2	2	4	LAM
0207-1206	375537307730371	3	1	2	6	5	3	2	2	LAM
0206-0946	775527331020371	4	3	2	5	5	2	2	4	LAM
0211-1795	771437307730371	4	3	2	6	5	3	2	3	LAM
0207-1188	775527307530361	3	3	2	6	5	2	2	4	LAM
0212-2007	777727307730731	4	3	2	4	6	3	2	4	LAM
0211-1956	375537307730371	3	2	2	6	5	3	2	1	LAM
0303-0372	777737767730771	3	3	2	6	5	3	2	3	LAM
0303-0466	777727307730731	4	3	2	4	6	3	2	4	LAM
0307-1117	777706777730771	4	3	2	5	4	2	2	3	LAM
0308-1283	77773777730771	4	3	2	5	5	2	2	3	LAM
0308-1195	777737203030771	4	1	2	6	5	3	2	1	LAM
0309-1292	777737377730771	3	2	2	6	5	3	2	1	LAM
0404-0632	not done	X	X	3	6	5	3	2	3	LAM
0112-2023	775537377730371	4	3	2	5	5	4	2	5	X
0302-0231	37373677777300	2	3	2	4	5	3	2	2	M. bovis ?
0212-1859	670537306047371	2	3	2	4	4	5	2	2	ok
0210-1620	775527304530351	5	2	2	6	5	2	2	3	Unknown
0211-1770	775537377730771	X	X	X	X	X	X	X	X	Unknown
0204-0600	145437377730361	5	2	2	5	3	3	2	3	Unknown
0206-0945	675535377730371	3	3	2	6	4	3	2	3	Unknown
0204-0739	775537377730371	5	4	2	5	5	X	2	2	Unknown

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0112-2137	675537307730331	5	3	2	3	6	3	2	2	Unknown
0204-0691	777737303030771	5	1	2	6	4	3	2	1	Unknown
0206-1060	775527307530761	3	3	2	6	5	2	2	5	Unknown
0103-1423	775537300000000	6	3	2	6	5	2	2	8	Unknown
0307-1098	775537307730371	4	3	2	6	7	4	2	2	Unknown
0309-1324	777737307730771	4	3	2	6	6	3	2	7	Unknown
0309-1352	177737307730771	4	2	2	4	7	3	2	1	Unknown
0309-1320	773437307730771	4	2	2	6	2	3	2	3	Unknown
0210-1638	777737307730771	X	X	2	4	5	3	X	3	Unknown
0312-1880	704737207730771	X	X	X	X	X	X	X	X	Unknown
0401-0143	not done	X	X	X	X	X	X	X	X	Unknown
0402-0244	77773777720771	5	3	2	5	5	4	2	4	Unknown
0403-0358	77773777730771	3	3	2	5	5	2	2	1	Unknown
0401-0021	not done	X	X	X	X	X	X	X	X	Unknown
0404-0508	736737710006771	5	4	3	5	8	5	3	3	Unknown
0404-0535	775535377720371	X	X	X	X	X	X	X	X	Unknown
0406-0998	77732777730771	X	X	X	X	X	X	X	X	Unknown
0404-0693	77553777730301	X	X	X	X	X	X	X	X	Unknown
0407-1218	771007307730371	X	X	X	X	X	X	X	X	Unknown
0407-1254	77773777720761	X	X	X	X	X	X	X	X	Unknown
0405-0821	77773777730761	3	3	2	5	5	4	2	3	Unknown
0407-1329	777737771020771	X	X	X	X	X	X	X	X	Unknown
0408-1412	77773777720771	X	X	X	X	X	X	X	X	Unknown
0408-1436	777737305730371	X	X	X	X	X	X	X	X	Unknown
0407-1150	777737773000071	X	X	X	X	X	X	X	X	Unknown
0407-1232	754735307730771	X	X	X	X	X	X	X	X	Unknown
0409-1564	not done	X	X	X	X	X	X	X	X	Unknown
0405-0798	not done	X	X	X	X	X	X	X	X	Unknown
0407-1133	777737773000061	X	X	X	X	X	X	X	X	Unknown
0407-1223	777737770000000	X	X	X	X	X	X	X	X	Unknown
3503 SL	777737716730771	X	X	X	X	X	X	X	X	Unknown
non enreg	77773777720771	X	X	X	X	X	X	X	X	Unknown
0308-1262	770000006730771	3	3	2	6	5	3	2	5	S
0404-0705	773637377730771	3	3	3	5	5	3	2	4	S

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0303-0394	777737101730771	5	1	2	5	1	3	2	2	TUR
0308-1255	77773777700771	3	3	2	5	5	4	2	2	Uganda
0305-0701	771027300730700	3	2	2	2	4	4	2	3	Uganda I
0404-0604	73773777730771	3	3	3	5	4	3	2	3	Uganda II
0212-1925	771427377730751	3	3	2	5	5	2	2	2	Uganda or S
0304-0651	770436306306311	4	4	2	4	4	5	2	2	West African
0402-0195	77073770777371	4	4	2	4	4	5	2	2	West African 2
	77777477760771	3	2	2	6	3	3	2	1	H37Rv

SUPPLEMENTARY TABLE 2: List of primers used for PCR and sequencing of *esx* genes

2A Primers used for PCR					2B Internal primers used for sequencing		
	5' → 3'	position	fragment size	T _m (°C)		5' → 3'	position
esxA	CACGCCGCTGATGTCTCA	4351950	1248	53	esxS1	ACCCGGGCCGGAAGACTT	4352212
esxB	CGACACGAACCGCTCCGA	4353198		55	esxS2	AACACGAGAAAGGGCGAG	4352961
esxC	ACGGTCAGCCATTCACGGAC	4373419	1271	56	esxS3	TCGTCAGCATGTACAG	4373621
esxD	CTTTCGAATCGGGCACCAGC	4374689		56	esxS4	TCGACAGGTCCGCAGA	4374460
esxE	GCCCAGCGACATCCGACATC	4390135	1211	58	esxS5	ACCCGCAGCCACCACC	4390367
esxF	GGACAACCTGCGCTGGTATGG	4391345		56	esxS6	CCCGGGCGGCTGAATT	4391080
esxG	TTTCGGCCCCTCGACGGG	351221	1244	57	esxS7	CGACAGCAAGTAACCG	351464
esxH	CGACGATGCCACGTAGCA	352464		53	esxS8	GAACCAAGCGTTGTCG	352199
esxI	CCAACAATGCGTCCACCC	1160256	1203	53	esxS9	TGGCCACACACCAACC	1160482
esxJ	CACAGCGCTCGAAGGCAG	1161459		55	esxS10	ACCACCGCGCCGATCA	1161219
esxK	CAACCAGGCAGTCACCCC	1340329	1272	55	esxS11	GTGCATGACAAGTTACAGG	1340606
esxL	CAACAACCCCCAGGAACG	1341601		53	esxS12	CCCGAAGGATCACGCG	1341350
esxM	CACGACAATGAACGCCAG	2029969	1364	53	esxS13	TCGGCGTCCATAACAG	2030292
esxN	ACAGCAGGGCGACGACTT	2031333		53	esxS14	AACTGCAGGACACAGC	2031038
esxO	CCTACGCTAACGCGGCAT	2625541	1334	53	esxS15	GGGGATACCCGTACGC	2625821
esxP	GCTGTGCCACCCGATGAT	2626875		53	esxS16	GTGCATGACAAGTTACAGG	2626572
esxQ	TTCCAGGACCGGCCAGAT	3376082	1129	53	esxS17	GGTCAGTTGTGCGTTG	3376431
	GTGTCCGGGTGGTGTGGTGT	3377211		55	esxS18	CTCGACCAAATTTTCGATCG	3376920
esxR	ACACCGGATCACCCGCTA	3378305	1420	53	esxS19	ATGGGGGCCCATCAAA	3378651
esxS	TGGCGGGATTGGCCGCTCT	3379725		58	esxS20	TTGACGATCTGACGGC	3379379
esxT	CGAACGTCGGCTTGTGCT	3862258	1453	53	esxS21	CCGTCGGGACCACACA	3862570
esxU	TGACGATTCCGGCGGACT	3863711		53	esxS22	GGCCCCGGCCATGAAGA	3863387
esxV	CGCCCACATTGAAGACTTGC	4059634	1301	54	esxS23	GTATCGGGCGCCAAAG	4059921
esxW	ATTCCGAGTGCTGGCCTG	4060935		53	esxS24	CGTTCGTTGATCGAGG	4060640

SUPPLEMENTARY TABLE 3: List of Ex epitopes from the Immune Epitope Database and Analysis Resource

Epitope Linear Sequence	Epitope ID	Epitope Start	Epitope End	Epitope Molecule Accession	Epitope Source Molecule Name	Epitope Source Organism	Host Organism	In Vivo 1 Process Type	In Vivo 1 Immunogen Object Description	In Vivo 1 Immunogen Epitope Relation	In Vitro Process Type	Antigen Source Molecule Name	MHC Allele ID	MHC Allele Name	Assay Type	Assay Group	PubMed ID	Author	Year
AAASAIQGN VTSIHSLS	60	13	28	61223745	ESAT-6	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism	Restimulat ion in vitro	6 kDa early secretory antigenic target			ELISA	Cytokine Release-IL-4	15325505	Yolanda LÉpez-Vidal; Samuel Ponce de Leñ-Rosales; Mauricio Casta"ñ-Arreola; M Sigfrido Rangel-Frausto; Enrique Melndez-Herrada; Eduardo Sada-Daz	2004
AAWGGSGSE AYQGVQK WDA	511	41	60	61223745	ESAT-6	M. tb	Homo sapiens Indian	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		6 kDa early secretory antigenic target	304	HLA-Class II, allele undetermined	Intracellular cytokine staining (ICS)	Cytokine Release-IL-4	19944647	Madhan Kumar; N Meenakshi; Jagadish C Sundaramurthi; Gurvinder Kaur; Narinder K Mehra; Alamelu Raja	2010
AGIEAAASAI QGNVTSIH	1559	9	26	61223745	ESAT-6	M. tb	Homo sapiens South African	Occurrence of infectious disease	Human immunodeficien cy virus 1	Other		6 kDa early secretory antigenic target			ELISPOT	Cytokine Release-IFN-g	18419535	Cheryl L Day; Nompumelelo Mkhwanazi; Sharon Reddy; Zenele Mncube; Mary van der Stok; Paul Klenerman; Bruce D Walker	2008
AIQGNVTSIH SLLDEGK	2060	17	33	61223745	ESAT-6	M. tb	Homo sapiens South African	Occurrence of infectious disease	Human immunodeficien cy virus 1	Other		6 kDa early secretory antigenic target			ELISPOT	Cytokine Release-IFN-g	18419535	Cheryl L Day; Nompumelelo Mkhwanazi; Sharon Reddy; Zenele Mncube; Mary van der Stok; Paul Klenerman; Bruce D Walker	2008
AMASTEGNV	3064	82	90	61223745	ESAT-6	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		6 kDa early secretory antigenic target	143	HLA-A*0201	Intracellular cytokine staining (ICS)	Cytokine Release-IL-2	19436760	Francesco Dieli; Tom H M Ottenhoff	2009
ARTISEAGQA MASTEGNVT	80451	73	91	15843506	ESAT-6	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Taxonomic Parent		early secretory antigenic target, 6 kDa			ELISPOT	Cytokine Release-IFN-g		Deborah A. Lewinsohn (1,2); Gwendolyn M. Swarbrick (1,3); David M. Lewinsohn (2,3)	2009
ATATELNNAL QNLARTI	4899	60	76	61223745	ESAT-6	M. tb	Homo sapiens South African	Occurrence of infectious disease	Human immunodeficien cy virus 1	Other		6 kDa early secretory antigenic target			ELISPOT	Cytokine Release-IFN-g	18419535	Cheryl L Day; Nompumelelo Mkhwanazi; Sharon Reddy; Zenele Mncube; Mary van der Stok; Paul Klenerman; Bruce D Walker	2008
AATELNNALQ NLARTISEAG QAMAS	4942	62	85	61223745	ESAT-6	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism	Restimulat ion in vitro	6 kDa early secretory antigenic target	326	HLA-DR	ELISA	Cytokine Release-IFN-g	10875783	A S Mustafa; F Oftung; H A Amoudy; N M Madi; A T Abal; F Shaban; I Rosen Krands; P Andersen	2000
AWGGSGSEA YQGVQK W DATATEL	5661	42	65	61223745	ESAT-6	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism	Restimulat ion in vitro	6 kDa early secretory antigenic target	326	HLA-DR	ELISA	Cytokine Release-IFN-g	10875783	A S Mustafa; F Oftung; H A Amoudy; N M Madi; A T Abal; F Shaban; I Rosen Krands; P Andersen	2000
EAAASAIQG NVTSIHSLLD EGKQS	10984	12	35	61223745	ESAT-6	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism	Restimulat ion in vitro	6 kDa early secretory antigenic target	326	HLA-DR	ELISA	Cytokine Release-IFN-g	10875783	A S Mustafa; F Oftung; H A Amoudy; N M Madi; A T Abal; F Shaban; I Rosen Krands; P Andersen	2000
EAYQGVQK W DATATEL	11228	49	65	61223745	ESAT-6	M. tb	Homo sapiens South African	Occurrence of infectious disease	Human immunodeficien cy virus 1	Other		6 kDa early secretory antigenic target			ELISPOT	Cytokine Release-IFN-g	18419535	Cheryl L Day; Nompumelelo Mkhwanazi; Sharon Reddy; Zenele Mncube; Mary van der Stok; Paul Klenerman; Bruce D Walker	2008
ELNNALQNL	13195	64	72	61223745	ESAT-6	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		6 kDa early secretory antigenic target			ELISPOT	Cytokine Release-IFN-g	9419365	A Lalvani; R Brookes; R J Wilkinson; A S Malin; A A Pathan; P Andersen; H Dockrell; G Pasvol; A V Hill	1998
FAGIEAAASA IQGNV	15177	8	22	61223745	ESAT-6	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism	Restimulat ion in vitro	6 kDa early secretory antigenic target	341	HLA-DR4	ELISA	Cytokine Release-IFN-g	17444958	H Hhn; C Kortsik; I Zehbe; W E Hitzler; K Kayser; K Freitag; C Neukirch; P Andersen; T M Doherty; M Maeurer	2007
GIEAAASAIQ GNVTSIHSLL D	20242	10	30	61223745	ESAT-6	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		6 kDa early secretory antigenic target	326	HLA-DR	ELISA	Cytokine Release-IFN-g	9862331	T Ulrichs; M E Munk; H Mollenkopf; S Behr-Perst; R Colangeli; M L Gennaro; S H Kaufmann	1998
GKQSLTKLA AAWGGSGSE AYQGVQ	20670	32	55	61223745	ESAT-6	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism	Restimulat ion in vitro	6 kDa early secretory antigenic target	326	HLA-DR	ELISA	Cytokine Release-IFN-g	10875783	A S Mustafa; F Oftung; H A Amoudy; N M Madi; A T Abal; F Shaban; I Rosen Krands; P Andersen	2000
IEAAASAIQG NVTSIHSLLD	25716	11	30	61223745	ESAT-6	M. tb	Homo sapiens Indian	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		6 kDa early secretory antigenic target			Intracellular cytokine staining (ICS)	Cytokine Release-IL-4	19944647	Madhan Kumar; N Meenakshi; Jagadish C Sundaramurthi; Gurvinder Kaur; Narinder K Mehra; Alamelu Raja	2010
ISEAGQAMA STEGNVTGM FA	28470	76	95	61223745	ESAT-6	M. tb	Homo sapiens Indian	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		6 kDa early secretory antigenic target	304	HLA-Class II, allele undetermined	Intracellular cytokine staining (ICS)	Cytokine Release-IL-4	19944647	Madhan Kumar; N Meenakshi; Jagadish C Sundaramurthi; Gurvinder Kaur; Narinder K Mehra; Alamelu Raja	2010
LARTISEAGQ AMASTEGNV TGMFA	34949	72	95	61223745	ESAT-6	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		6 kDa early secretory antigenic target	304	HLA-Class II, allele undetermined	ELISA	Cytokine Release-IFN-g	15699149	Glenn Tully; Cornelius Kortsik; Hanni Hhn; Ingeborg Zehbe; W E Hitzler; Claudia Neukirch; Kirsten Freitag; Klaus Kayser; Markus J Maeurer	2005
LDEGKQSLT KLAAAWG	35139	29	44	61223745	ESAT-6	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism	Restimulat ion in vitro	6 kDa early secretory antigenic target			ELISA	Cytokine Release-IL-4	15325505	Yolanda LÉpez-Vidal; Samuel Ponce de Leñ-Rosales; Mauricio Casta"ñ-Arreola; M Sigfrido Rangel-Frausto; Enrique Melndez-Herrada; Eduardo Sada-Daz	2004
LLDEGKQSL	37146	28	36	61223745	ESAT-6	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		6 kDa early secretory antigenic target	235	HLA-A2	MHC Tetramer/Multimer Staining	TCR Binding	17444958	H Hhn; C Kortsik; I Zehbe; W E Hitzler; K Kayser; K Freitag; C Neukirch; P Andersen; T M Doherty; M Maeurer	2007

Epitope Linear Sequence	Epitope ID	Epitope Start	Epitope End	Epitope Molecule Accession	Epitope Source Molecule Name	Epitope Source Organism	Host Organism	In Vivo 1 Process Type	In Vivo 1 Immunogen Object Description	In Vivo 1 Immunogen Epitope Relation	In Vitro Process Type	Antigen Source Molecule Name	MHC Allele ID	MHC Allele Name	Assay Type	Assay Group	PubMed ID	Author	Year
LQNLARTISEAGQAMASTE GNVT	85735	69	91	15843506	ESAT-6	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Taxonomic Parent		early secretory antigenic target, 6 kDa			ELISPOT	Cytokine Release-IFN-g		Deborah A. Lewinsohn (1,2); Gwendolyn M. Swarbrick (1,3); David M. Lewinsohn (2,3)	2009
MTEQQWNFAGIEAAASAI QGNVTSI	42798	1	25	61223745	ESAT-6	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Taxonomic Parent		6 kDa early secretory antigenic target			ELISA	Cytokine Release-IFN-g	18408395	Shumaila N M Hanif; Abdulsalam M El-Shammy; Rajaa Al-Attayah; Abu S Mustafa	2008
NALQNLARTISEAGQAMA	43211	67	84	61223745	ESAT-6	M. tb	Homo sapiens South African	Occurrence of infectious disease	Human immunodeficiency virus 1	Other		6 kDa early secretory antigenic target			ELISPOT	Cytokine Release-IFN-g	18419535	Cheryl L Day; Nompumelelo Mkhwanazi; Sharon Reddy; Zenele Mncube; Mary van der Stok; Paul Klenerman; Bruce D Walker	2008
NLARTISEAGQAMASTE GNV	44653	71	90	61223745	ESAT-6	M. tb	Homo sapiens Indian	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		6 kDa early secretory antigenic target	HLA-Class II, 304	Intracellular cytokine staining (ICS)	Cytokine Release-IL-4	19944647	Madhan Kumar; N Meenakshi; Jagadish C Sundaramurthi; Gurvinder Kaur; Narinder K Mehra; Alamelu Raja	2010	
NNALQNLARTISEAG NVT SIHSLLD EGKQSLTKLA	106686	66	80	61223745	ESAT-6	M. tb	Homo sapiens	Occurrence of disease				6 kDa early secretory antigenic target	HLA-419 DRB1*1101	ELISPOT	Cytokine Release-IFN-g	19536643	Kyra Oswald-Richter; Hiroe Sato; Rana Hajizadeh; Bryan E Shepherd; John Sidney; Alessandro Sette; Lee S Newman; Wonder Puryear Drake	2010	
EGKQSLTKLA	46501	21	40	61223745	ESAT-6	M. tb	Homo sapiens Indian	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		6 kDa early secretory antigenic target		Intracellular cytokine staining (ICS)	Cytokine Release-IL-4	19944647	Madhan Kumar; N Meenakshi; Jagadish C Sundaramurthi; Gurvinder Kaur; Narinder K Mehra; Alamelu Raja	2010	
QAMASTE GNVTGMFA	50318	81	95	61223745	ESAT-6	M. tb	Homo sapiens South African	Occurrence of infectious disease	Human immunodeficiency virus 1	Other		6 kDa early secretory antigenic target			ELISPOT	Cytokine Release-IFN-g	18419535	Cheryl L Day; Nompumelelo Mkhwanazi; Sharon Reddy; Zenele Mncube; Mary van der Stok; Paul Klenerman; Bruce D Walker	2008
QGVQKWD ATATELNNAL QNLART	50981	52	75	61223745	ESAT-6	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism	Restimulation in vitro	6 kDa early secretory antigenic target	326 HLA-DR	ELISA	Cytokine Release-IFN-g	10875783	A S Mustafa; F Oftung; H A Amoudy; N M Madi; A T Abal; F Shaban; I Rosen Krands; P Andersen	2000	
SIHSLLD EGKQSLTKLAA	58534	24	41	61223745	ESAT-6	M. tb	Homo sapiens South African	Occurrence of infectious disease	Human immunodeficiency virus 1	Other		6 kDa early secretory antigenic target			ELISPOT	Cytokine Release-IFN-g	18419535	Cheryl L Day; Nompumelelo Mkhwanazi; Sharon Reddy; Zenele Mncube; Mary van der Stok; Paul Klenerman; Bruce D Walker	2008
STEGNVTGMFA	61578	85	95	61223745	ESAT-6	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism	Restimulation in vitro	6 kDa early secretory antigenic target			ELISA	Cytokine Release-IL-4	15325505	Yolanda L�pez-Vidal; Samuel Ponce de Le�n-Rosales; Mauricio Casta�n-Arreola; M Sigfrido Rangel-Frausto; Enrique Mel�ndez-Herrada; Eduardo Sada-D�az	2004
TATELNNAL QNLARTISEAG	63010	61	80	61223745	ESAT-6	M. tb	Homo sapiens Indian	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		6 kDa early secretory antigenic target	HLA-Class II, 304	Intracellular cytokine staining (ICS)	Cytokine Release-IL-4	19944647	Madhan Kumar; N Meenakshi; Jagadish C Sundaramurthi; Gurvinder Kaur; Narinder K Mehra; Alamelu Raja	2010	
TISEAGQAMASTE GNV	64457	75	90	61223745	ESAT-6	M. tb	Homo sapiens South African	Occurrence of infectious disease	Human immunodeficiency virus 1	Other		6 kDa early secretory antigenic target			ELISPOT	Cytokine Release-IFN-g	18419535	Cheryl L Day; Nompumelelo Mkhwanazi; Sharon Reddy; Zenele Mncube; Mary van der Stok; Paul Klenerman; Bruce D Walker	2008
VQKWD ATATELNNAL VTSIHSLLD EGKQSLTKLAA AAWGG	70631	54	69	61223745	ESAT-6	M. tb	Homo sapiens South African	Occurrence of infectious disease	Human immunodeficiency virus 1	Other		6 kDa early secretory antigenic target			ELISPOT	Cytokine Release-IFN-g	18419535	Cheryl L Day; Nompumelelo Mkhwanazi; Sharon Reddy; Zenele Mncube; Mary van der Stok; Paul Klenerman; Bruce D Walker	2008
AAWGG	71492	22	45	61223745	ESAT-6	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism	Restimulation in vitro	6 kDa early secretory antigenic target	326 HLA-DR	ELISA	Cytokine Release-IFN-g	10875783	A S Mustafa; F Oftung; H A Amoudy; N M Madi; A T Abal; F Shaban; I Rosen Krands; P Andersen	2000	
WNFAGIEAA ASAIQGNVT SIHSL	72888	6	28	61223745	ESAT-6	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		6 kDa early secretory antigenic target	HLA-Class II, 304	undetermined	ELISPOT	Cytokine Release-IFN-g	12865946	Donatella Vincenti; Stefania Carrara; Patrizia De Mori; Leopoldo P Pucillo; Nicola Petrosillo; Fabrizio Palmieri; Orlando Armignacco; Giuseppe Ippolito; Enrico Girardi; Massimo Amicosante; Delia Goletti	2003
AANKQKQEL DEISTNIRQA G	327	61	80	15611010	EsxB	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		10 kDa culture filtrate antigen EsxB		Intracellular cytokine staining (ICS)	Cytokine Release-IL-4	19902247	Madhan Kumar; Jagadish C Sundaramurthi; Narinder K Mehra; Gurvinder Kaur; Alamelu Raja	2010	
AAVVRFQEA ANKQKQEL	506	53	69	61223749	esxB	M. tb	Homo sapiens South African	Occurrence of infectious disease	Human immunodeficiency virus 1	Other		ESAT-6-like protein esxB		Intracellular cytokine staining (ICS)	Cytokine Release-IL-2	18419535	Cheryl L Day; Nompumelelo Mkhwanazi; Sharon Reddy; Zenele Mncube; Mary van der Stok; Paul Klenerman; Bruce D Walker	2008	
ADEEQQAL SSQMGF	655	86	100	61223749	esxB	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Taxonomic Parent		ESAT-6-like protein esxB			ELISPOT	Cytokine Release-IFN-g	15265931	Homayoun Shams; Peter Klucar; Steven E Weis; Ajit Lalvani; Patrick K Moonan; Hassan Safi; Benjamin Wizel; Katie Ewer; Gerald T Nepom; David M Lewinsohn; Peter Andersen; Peter F Barnes	2004
AEMKTDAA T LA	1080	2	12	61223749	esxB	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		ESAT-6-like protein esxB	36 HLA-B*4501	ELISPOT	Cytokine Release-IFN-g	17892322	Deborah A Lewinsohn; Ervina Winata; Gwendolyn M Swarbrick; Katie E Tanner; Matthew S Cook; Megan D Null; Meghan E Cansler; Alessandro Sette; John Sidney; David M Lewinsohn	2007	

Epitope Linear Sequence	Epitope ID	Epitope Start	Epitope End	Epitope Molecule Accession	Epitope Source Molecule Name	Epitope Source Organism	Host Organism	In Vivo 1 Process Type	In Vivo 1 Immunogen Object Description	In Vivo 1 Immunogen Epitope Relation	In Vitro Process Type	Antigen Source Molecule Name	MHC Allele ID	MHC Allele Name	Assay Type	Assay Group	PubMed ID	Author	Year
AGSLQGQW RGAAGTA	1681	36	50	61223749	esxB	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Taxonomic Parent		ESAT-6-like protein esxB			ELISPOT	Cytokine Release-IFN-g	15265931	Homayoun Shams; Peter Klucar; Steven E Weis; Ajit Lalvani; Patrick K Moonan; Hassan Safi; Benjamin Wizel; Katie Ewer; Gerald T Nepom; David M Lewinsohn; Peter Andersen; Peter F Barnes	2004
AQAAVVRFQ EAANKQKQE LD	3935	51	70	15611010	EsxB	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		10 kDa culture filtrate antigen EsxB			Intracellular cytokine staining (ICS)	Cytokine Release-IL-4	19902247	Madhan Kumar; Jagadish C Sundaramurthi; Narinder K Mehra; Gurvinder Kaur; Alamelu Raja	2010
ATLAQEAGN FERISGDLK	5028	9	26	61223749	esxB	M. tb	Homo sapiens South African	Occurrence of infectious disease	Human immunodeficiency virus 1	Other		ESAT-6-like protein esxB			ELISPOT	Cytokine Release-IFN-g	18419535	Cheryl L Day; Nompumelelo Mkhwanazi; Sharon Reddy; Zenele Mncube; Mary van der Stok; Paul Klenerman; Bruce D Walker	2008
DQVESTAGS LQGQWRGA A	9920	30	47	61223749	esxB	M. tb	Homo sapiens South African	Occurrence of infectious disease	Human immunodeficiency virus 1	Other		ESAT-6-like protein esxB			Intracellular cytokine staining (ICS)	Cytokine Release-IL-2	18419535	Cheryl L Day; Nompumelelo Mkhwanazi; Sharon Reddy; Zenele Mncube; Mary van der Stok; Paul Klenerman; Bruce D Walker	2008
EAANKQKQE LDEISTNIR	10994	60	77	61223749	esxB	M. tb	Homo sapiens South African	Occurrence of infectious disease	Human immunodeficiency virus 1	Other		ESAT-6-like protein esxB			ELISPOT	Cytokine Release-IFN-g	18419535	Cheryl L Day; Nompumelelo Mkhwanazi; Sharon Reddy; Zenele Mncube; Mary van der Stok; Paul Klenerman; Bruce D Walker	2008
EISTNIRQAG VQYSRADEE Q	12585	71	90	15611010	EsxB	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		10 kDa culture filtrate antigen EsxB			Intracellular cytokine staining (ICS)	Cytokine Release-IL-4	19902247	Madhan Kumar; Jagadish C Sundaramurthi; Narinder K Mehra; Gurvinder Kaur; Alamelu Raja	2010
ELDEISTNIR QAGVQYSR	12979	68	85	61223749	esxB	M. tb	Homo sapiens South African	Occurrence of infectious disease	Human immunodeficiency virus 1	Other		ESAT-6-like protein esxB			ELISPOT	Cytokine Release-IFN-g	18419535	Cheryl L Day; Nompumelelo Mkhwanazi; Sharon Reddy; Zenele Mncube; Mary van der Stok; Paul Klenerman; Bruce D Walker	2008
EMKTDAA TL GAAGTAAQA AVVRFQEAA N	13386 82519	3 45	11 63	61223749 15611010	esxB EsxB	M. tb M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism Taxonomic Parent		ESAT-6-like protein esxB 10 kDa culture filtrate antigen EsxB	252 HLA-B*0801		ELISPOT	Cytokine Release-IFN-g	17892322	Deborah A Lewinsohn; Ervina Winata; Gwendolyn M Swarbrick; Katie E Tanner; Matthew S Cook; Megan D Null; Meghan E Cansler; Alessandro Sette; John Sidney; David M Lewinsohn	2007
GDLKTQIDQ VESTAGSL	19028	23	39	61223749	esxB	M. tb	Homo sapiens South African	Occurrence of infectious disease	Human immunodeficiency virus 1	Other		ESAT-6-like protein esxB			ELISPOT	Cytokine Release-IFN-g	18419535	Cheryl L Day; Nompumelelo Mkhwanazi; Sharon Reddy; Zenele Mncube; Mary van der Stok; Paul Klenerman; Bruce D Walker	2008
GNERISGDL KTQID	21422	16	30	61223749	esxB	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Taxonomic Parent		ESAT-6-like protein esxB			ELISPOT	Cytokine Release-IFN-g	15265931	Homayoun Shams; Peter Klucar; Steven E Weis; Ajit Lalvani; Patrick K Moonan; Hassan Safi; Benjamin Wizel; Katie Ewer; Gerald T Nepom; David M Lewinsohn; Peter Andersen; Peter F Barnes	2004
GQWRGAAG TAAQA AVVR FQE	21976	41	60	15611010	EsxB	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		10 kDa culture filtrate antigen EsxB			Intracellular cytokine staining (ICS)	Cytokine Release-IL-4	19902247	Madhan Kumar; Jagadish C Sundaramurthi; Narinder K Mehra; Gurvinder Kaur; Alamelu Raja	2010
ISGDLKTQID QVESTAGSL Q	28506	21	40	15611010	EsxB	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		10 kDa culture filtrate antigen EsxB			Intracellular cytokine staining (ICS)	Cytokine Release-IL-4	19902247	Madhan Kumar; Jagadish C Sundaramurthi; Narinder K Mehra; Gurvinder Kaur; Alamelu Raja	2010
KQELDEISTN IRQAG	32971	66	80	61223749	esxB	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Taxonomic Parent		ESAT-6-like protein esxB			ELISPOT	Cytokine Release-IFN-g	15265931	Homayoun Shams; Peter Klucar; Steven E Weis; Ajit Lalvani; Patrick K Moonan; Hassan Safi; Benjamin Wizel; Katie Ewer; Gerald T Nepom; David M Lewinsohn; Peter Andersen; Peter F Barnes	2004
KTQIDQVEST AGSLQ	33831	26	40	61223749	esxB	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Taxonomic Parent		ESAT-6-like protein esxB			ELISPOT	Cytokine Release-IFN-g	15265931	Homayoun Shams; Peter Klucar; Steven E Weis; Ajit Lalvani; Patrick K Moonan; Hassan Safi; Benjamin Wizel; Katie Ewer; Gerald T Nepom; David M Lewinsohn; Peter Andersen; Peter F Barnes	2004
LAQEAGNFE RISGDLKTQI D	34928	11	30	15611010	EsxB	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		10 kDa culture filtrate antigen EsxB			Intracellular cytokine staining (ICS)	Cytokine Release-IL-4	19902247	Madhan Kumar; Jagadish C Sundaramurthi; Narinder K Mehra; Gurvinder Kaur; Alamelu Raja	2010
LDEISTNIRQ AGVQYSRAD MAEMKTD ATLAQEAGN FER	85043 41030	69 1	87 20	15611010 15611010	EsxB EsxB	M. tb H37Rv M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Taxonomic Parent Source Organism		10 kDa culture filtrate antigen EsxB 10 kDa culture filtrate antigen EsxB			ELISPOT Intracellular cytokine staining (ICS)	Cytokine Release-IFN-g Cytokine Release-IL-4	19902247	Deborah A. Lewinsohn (1,2); Gwendolyn M. Swarbrick (1,3); David M. Lewinsohn (2,3) Madhan Kumar; Jagadish C Sundaramurthi; Narinder K Mehra; Gurvinder Kaur; Alamelu Raja	2009
NFERISGDLK TQIDQV	43829	17	32	61223749	esxB	M. tb	Homo sapiens South African	Occurrence of infectious disease	Human immunodeficiency virus 1	Other		ESAT-6-like protein esxB			ELISPOT	Cytokine Release-IFN-g	18419535	Cheryl L Day; Nompumelelo Mkhwanazi; Sharon Reddy; Zenele Mncube; Mary van der Stok; Paul Klenerman; Bruce D Walker	2008

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NIRQAGVQY QVESTAGSL QGQWRGAA GTA	44327	75	83	61223749	esxB	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		ESAT-6-like protein esxB	258	HLA-B*1502	ELISPOT	Cytokine Release-IFN-g	17892322	Deborah A Lewinsohn; Ervina Winata; Gwendolyn M Swarbrick; Katie E Tanner; Matthew S Cook; Megan D Null; Meghan E Cansler; Alessandro Sette; John Sidney; David M Lewinsohn	2007
	52690	31	50	15611010	EsxB	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		10 kDa culture filtrate antigen EsxB			Intracellular cytokine staining (ICS)	Cytokine Release-IL-4	19902247	Madhan Kumar; Jagadish C Sundaramurthi; Narinder K Mehra; Gurvinder Kaur; Alamelu Raja	2010
RADEEQQQA L	53077	85	94	61223749	esxB	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		ESAT-6-like protein esxB	275	HLA-B14	ELISPOT	Cytokine Release-IFN-g	17892322	Deborah A Lewinsohn; Ervina Winata; Gwendolyn M Swarbrick; Katie E Tanner; Matthew S Cook; Megan D Null; Meghan E Cansler; Alessandro Sette; John Sidney; David M Lewinsohn	2007
SLQGQWRG AAGTAAQAA V	59414	38	55	61223749	esxB	M. tb	Homo sapiens South African	Occurrence of infectious disease	Human immunodeficiency virus 1	Other		ESAT-6-like protein esxB			ELISPOT	Cytokine Release-IFN-g	18419535	Cheryl L Day; Nompumelelo Mkhwanazi; Sharon Reddy; Zenele Mncube; Mary van der Stok; Paul Klenerman; Bruce D Walker	2008
SRADEEQQQ ALSSQMGF	60616	84	100	61223749	esxB	M. tb	Homo sapiens South African	Occurrence of infectious disease	Human immunodeficiency virus 1	Other		ESAT-6-like protein esxB			ELISPOT	Cytokine Release-IFN-g	18419535	Cheryl L Day; Nompumelelo Mkhwanazi; Sharon Reddy; Zenele Mncube; Mary van der Stok; Paul Klenerman; Bruce D Walker	2008
STNIRQAGV QYSRAD	61782	73	87	61223749	esxB	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism	Restimulation in vitro		304	HLA-Class II, allele undetermined	ELISA	Cytokine Release-IFN-g	12969871	Deborah A Lewinsohn; Amy S Heinzel; James M Gardner; Liqing Zhu; Mark R Alderson; David M Lewinsohn	2003
TAAQAAVVR F	62797	49	58	61223749	esxB	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		ESAT-6-like protein esxB	199	HLA-B*3514	ELISPOT	Cytokine Release-IFN-g	17892322	Deborah A Lewinsohn; Ervina Winata; Gwendolyn M Swarbrick; Katie E Tanner; Matthew S Cook; Megan D Null; Meghan E Cansler; Alessandro Sette; John Sidney; David M Lewinsohn	2007
TDAATLAQE AGNFER	63109	6	20	61223749	esxB	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Taxonomic Parent		ESAT-6-like protein esxB			ELISPOT	Cytokine Release-IFN-g	15265931	Homayoun Shams; Peter Klucar; Steven E Weis; Ajit Lalvani; Patrick K Moonan; Hassan Safi; Benjamin Wize; Katie Ewer; Gerald T Nepom; David M Lewinsohn; Peter Andersen; Peter F Barnes	2004
VQYSRADEE QQALSSQMGF	70687	81	100	15611010	EsxB	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		ESAT-6-like protein esxB			Intracellular cytokine staining (ICS)	Cytokine Release-IL-4	19902247	Madhan Kumar; Jagadish C Sundaramurthi; Narinder K Mehra; Gurvinder Kaur; Alamelu Raja	2010
VRFQEAANK QKQELD	70720	56	70	61223749	esxB	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Taxonomic Parent		ESAT-6-like protein esxB			ELISPOT	Cytokine Release-IFN-g	15265931	Homayoun Shams; Peter Klucar; Steven E Weis; Ajit Lalvani; Patrick K Moonan; Hassan Safi; Benjamin Wize; Katie Ewer; Gerald T Nepom; David M Lewinsohn; Peter Andersen; Peter F Barnes	2004
AAGTAAQAA VVRFQEAANK KQKQELD	189	46	70	2960226	ESXB (LHP) (CFP10)	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Taxonomic Parent		10 KDA CULTURE FILTRATE ANTIGEN ESXB (LHP) (CFP10)			ELISA	Cytokine Release-IFN-g	18408395	Shumaila N M Hanif; Abdulsalam M El-Shammy; Rajaa Al-Attiyah; Abu S Mustafa	2008
AAHARFVAA	194	53	61	81669511	esxG	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		Hypothetical protein esxG	252	HLA-B*0801	ELISPOT	Cytokine Release-IFN-g	17892322	Deborah A Lewinsohn; Ervina Winata; Gwendolyn M Swarbrick; Katie E Tanner; Matthew S Cook; Megan D Null; Meghan E Cansler; Alessandro Sette; John Sidney; David M Lewinsohn	2007
LLDAHIPQL	37140	3	11	81669511	esxG	M. tb	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis	Source Organism		Hypothetical protein esxG	143	HLA-A*0201	ELISPOT	Cytokine Release-IFN-g	17892322	Deborah A Lewinsohn; Ervina Winata; Gwendolyn M Swarbrick; Katie E Tanner; Matthew S Cook; Megan D Null; Meghan E Cansler; Alessandro Sette; John Sidney; David M Lewinsohn	2007
AMEDLVRAY HAMSSTHEA AMSSTHEAN TMAMMARD T	3081	61	78	61223751	esxH	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		ESAT-6-like protein esxH			ELISPOT	Cytokine Release-IFN-g	12228269	Rikke Louise Vinther SkjØt; Inger Brock; Sandra M Arend; Martin E Munk; Michael Theisen; Tom H M Ottenhoff; Peter Andersen	2002
	3196	71	88	61223751	esxH	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		ESAT-6-like protein esxH			ELISPOT	Cytokine Release-IFN-g	12228269	Rikke Louise Vinther SkjØt; Inger Brock; Sandra M Arend; Martin E Munk; Michael Theisen; Tom H M Ottenhoff; Peter Andersen	2002
EIAVEQAALQ SAWQGDITG	12402	31	48	61223751	esxH	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		ESAT-6-like protein esxH			ELISPOT	Cytokine Release-IFN-g	12228269	Rikke Louise Vinther SkjØt; Inger Brock; Sandra M Arend; Martin E Munk; Michael Theisen; Tom H M Ottenhoff; Peter Andersen	2002
MAMMARDT AEAANKWGG	41089	81	96	61223751	esxH	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		ESAT-6-like protein esxH			ELISPOT	Cytokine Release-IFN-g	12228269	Rikke Louise Vinther SkjØt; Inger Brock; Sandra M Arend; Martin E Munk; Michael Theisen; Tom H M Ottenhoff; Peter Andersen	2002
YAGTLQSLG AEIAVEQAA	73362	21	38	61223751	esxH	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		ESAT-6-like protein esxH			ELISPOT	Cytokine Release-IFN-g	12228269	Rikke Louise Vinther SkjØt; Inger Brock; Sandra M Arend; Martin E Munk; Michael Theisen; Tom H M Ottenhoff; Peter Andersen	2002

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AFRNIVNML DCGTIRVGSF RGRWLDPRH A	124973	63	71	15608178	esxJ (Esat-6 like protein 2)	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		Esat-6 like protein esxJ (Esat-6 like protein 2)	HLA-311	Cw*0602	ELISPOT	Cytokine Release-IFN-g		Deborah A. Lewinsohn M.D.; Meghan E. Cansler; Megan Null; Gwendolyn Swarbrick; David Lewinsohn M.D., Ph.D.	2010
DIASERTAPS RACQGDLG MS	7703	91	110	54040982	esxQ	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		ESAT-6-like protein esxQ			ELISPOT	Cytokine Release-IFN-g	12228269	Rikke Louise Vinther SkjØt; Inger Brock; Sandra M Arend; Martin E Munk; Michael Theisen; Tom H M Ottenhoff; Peter Andersen	2002
HQDWQAQW NQAMEALA RAYR	8591	31	50	54040982	esxQ	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		ESAT-6-like protein esxQ			ELISPOT	Cytokine Release-IFN-g	12228269	Rikke Louise Vinther SkjØt; Inger Brock; Sandra M Arend; Martin E Munk; Michael Theisen; Tom H M Ottenhoff; Peter Andersen	2002
MSQSMYSYP AMTANVGD MAG	24571	51	70	54040982	esxQ	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		ESAT-6-like protein esxQ			ELISPOT	Cytokine Release-IFN-g	12228269	Rikke Louise Vinther SkjØt; Inger Brock; Sandra M Arend; Martin E Munk; Michael Theisen; Tom H M Ottenhoff; Peter Andersen	2002
MTANVGDM AGYTGTTQS LGA	42642	1	20	54040982	esxQ	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		ESAT-6-like protein esxQ			ELISPOT	Cytokine Release-IFN-g	12228269	Rikke Louise Vinther SkjØt; Inger Brock; Sandra M Arend; Martin E Munk; Michael Theisen; Tom H M Ottenhoff; Peter Andersen	2002
RACQGDLG MSHQDWQA QWNQ	42739	11	30	54040982	esxQ	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		ESAT-6-like protein esxQ			ELISPOT	Cytokine Release-IFN-g	12228269	Rikke Louise Vinther SkjØt; Inger Brock; Sandra M Arend; Martin E Munk; Michael Theisen; Tom H M Ottenhoff; Peter Andersen	2002
RCRRALRQI GVLERPVG DSS	53075	41	60	54040982	esxQ	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		ESAT-6-like protein esxQ			ELISPOT	Cytokine Release-IFN-g	12228269	Rikke Louise Vinther SkjØt; Inger Brock; Sandra M Arend; Martin E Munk; Michael Theisen; Tom H M Ottenhoff; Peter Andersen	2002
RGRWLDPRH AGPATAADA GD	53312	71	90	54040982	esxQ	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		ESAT-6-like protein esxQ			ELISPOT	Cytokine Release-IFN-g	12228269	Rikke Louise Vinther SkjØt; Inger Brock; Sandra M Arend; Martin E Munk; Michael Theisen; Tom H M Ottenhoff; Peter Andersen	2002
VLERPVGDS SDCGTIRVGS F	53974	101	120	54040982	esxQ	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		ESAT-6-like protein esxQ			ELISPOT	Cytokine Release-IFN-g	12228269	Rikke Louise Vinther SkjØt; Inger Brock; Sandra M Arend; Martin E Munk; Michael Theisen; Tom H M Ottenhoff; Peter Andersen	2002
YTGTTQSLG ADIASERTAP S	69467	81	100	54040982	esxQ	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		ESAT-6-like protein esxQ			ELISPOT	Cytokine Release-IFN-g	12228269	Rikke Louise Vinther SkjØt; Inger Brock; Sandra M Arend; Martin E Munk; Michael Theisen; Tom H M Ottenhoff; Peter Andersen	2002
ALEDLVRAY QMSGTHES NT	76066	21	40	54040982	esxQ	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		ESAT-6-like protein esxQ			ELISPOT	Cytokine Release-IFN-g	12228269	Rikke Louise Vinther SkjØt; Inger Brock; Sandra M Arend; Martin E Munk; Michael Theisen; Tom H M Ottenhoff; Peter Andersen	2002
MMAHAGDM AGYAGTLQS LGA	2497	61	80	54040983	esxR	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		ESAT-6-like protein esxR			ELISPOT	Cytokine Release-IFN-g	12228269	Rikke Louise Vinther SkjØt; Inger Brock; Sandra M Arend; Martin E Munk; Michael Theisen; Tom H M Ottenhoff; Peter Andersen	2002
SAWQGDGTG TYQGWQTQ WNQ	42102	11	30	54040983	esxR	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		ESAT-6-like protein esxR			ELISPOT	Cytokine Release-IFN-g	12228269	Rikke Louise Vinther SkjØt; Inger Brock; Sandra M Arend; Martin E Munk; Michael Theisen; Tom H M Ottenhoff; Peter Andersen	2002
SMSGTHESN TMAMLARD GAE	57048	41	60	54040983	esxR	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		ESAT-6-like protein esxR			ELISPOT	Cytokine Release-IFN-g	12228269	Rikke Louise Vinther SkjØt; Inger Brock; Sandra M Arend; Martin E Munk; Michael Theisen; Tom H M Ottenhoff; Peter Andersen	2002
YQGWQTQW NQALEDLVR AYQ	59748	71	90	54040983	esxR	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		ESAT-6-like protein esxR			ELISPOT	Cytokine Release-IFN-g	12228269	Rikke Louise Vinther SkjØt; Inger Brock; Sandra M Arend; Martin E Munk; Michael Theisen; Tom H M Ottenhoff; Peter Andersen	2002
	75496	51	70	54040983	esxR	M. tb H37Rv	Homo sapiens	Occurrence of infectious disease	Mycobacterium tuberculosis H37Rv	Source Organism		ESAT-6-like protein esxR			ELISPOT	Cytokine Release-IFN-g	12228269	Rikke Louise Vinther SkjØt; Inger Brock; Sandra M Arend; Martin E Munk; Michael Theisen; Tom H M Ottenhoff; Peter Andersen	2002

Gene	esxO	esxO	esxO	esxO	esxV	esxV	esxV	esxD	esxD	esxF	esxQ	esxJ	esxJ
Position	2626095	2626113	2626149	2626155	4060100	4060107	4060230	4374247	4374339	4390753	3376685	1160894	1161026
Original	GCG	CAG	GGU	CAG	CUG	AUU	CAC	AAC	CUG	UCG	GCC	GAA	GGC
New	GCC	CAA	GGG	CAA	UUG	AUC	CAU	AAU	UUG	UCC	GCU	GAG	GGU
H37RV (WT)	G	G	T	G	G	A	G	G	G	C	G	A	C
mut	C	A	G	A	A	G	A	A	A	G	A	G	T
SNP	26	20	8	6	57	54	13	42	12	93	56	86	42
1	-	-	-	-	SNP	-	-	-	-	-	-	-	-
69	-	-	-	-	SNP	-	-	-	-	-	-	-	-
27	-	-	-	-	SNP	-	-	-	-	-	-	-	-
59	-	-	-	-	SNP	-	-	-	-	-	-	-	-
66	-	-	-	-	SNP	-	-	-	-	-	-	-	-
115	-	-	-	-	SNP	-	-	-	-	-	-	-	-
7	-	-	SNP	-	SNP	-	-	-	-	-	-	-	-
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81	-	-	SNP	-	SNP	-	-	-	-	-	-	-	-
82	-	-	SNP	-	SNP	-	-	-	-	-	-	-	-
83	-	-	SNP	-	SNP	-	-	-	-	-	-	-	-
94	-	-	-	-	SNP	-	-	-	-	-	-	-	-
16	-	-	-	-	SNP	-	-	-	-	-	-	-	-
4	-	-	-	-	SNP	-	-	-	-	SNP	-	-	-
57	-	-	-	-	-	-	SNP	-	-	-	-	-	-
88	-	-	-	-	SNP	-	-	-	-	-	-	-	-
56	-	-	-	-	-	-	SNP	-	-	-	-	-	-
85	-	-	-	-	-	-	SNP	-	-	-	-	-	-
30	-	-	-	-	-	-	SNP	-	-	-	-	-	-
32	-	-	-	-	SNP	-	-	-	-	-	-	-	-
38	-	-	-	-	SNP	-	-	-	-	-	-	-	-
44	SNP	-	SNP	SNP	SNP	-	-	-	-	-	-	-	-
46	-	-	-	-	SNP	-	-	-	-	-	-	-	-
90	-	-	-	-	SNP	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	SNP	-	-	-	-	-	-
13	-	-	-	-	SNP	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	SNP	-	-	-	-	-	-
21	-	-	-	-	-	-	SNP	-	-	-	-	-	-
28	-	-	-	-	-	-	SNP	-	-	-	-	-	-
34	-	-	-	-	SNP	-	-	-	-	-	-	-	-
35	-	-	-	-	SNP	-	-	-	-	-	-	-	-
39	-	-	-	-	-	-	SNP	-	-	-	-	-	-
40	-	-	-	-	-	-	SNP	-	-	-	-	-	-
45	-	-	-	-	SNP	-	-	-	-	-	-	-	-
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51	-	-	-	-	SNP	-	-	-	-	-	-	-	-
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63	-	-	-	-	SNP	-	-	-	-	-	-	-	-
74	-	-	-	-	SNP	-	-	-	-	-	-	-	-
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15	-	-	-	-	SNP	-	-	-	-	-	-	-	-
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37	-	-	-	-	SNP	-	-	-	-	SNP	-	-	-
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62	-	-	-	-	-	SNP	SNP	-	-	-	-	-	-
64	-	-	-	-	SNP	-	-	-	-	-	-	SNP	-
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93	-	-	-	-	-	-	-	SNP	-	-	-	-	-
23	-	-	-	-	SNP	-	-	-	-	-	SNP	-	-

Gene	esxP	esxP	esxP	esxP	esxW	esxW	esxW	esxW
Position	2626400	2626403	2626490	2626514	4060334	4060340	4060466	4060583
Original	AUC	AAC	CAC	GCA	GAA	AAC	GGC	UCG
New	AUU	AAU	CAU	GCC	GAG	AAU	GGU	UCA
H37RV (WT)	C	C	C	A	T	G	G	C
mut	T	T	T	C	C	A	A	T
SNP	40	39	10	2	86	84	42	3
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69	-	-	-	SNP	-	-	-	-
27	-	-	-	SNP	-	-	-	-
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43	-	-	-	-	-	-	-	-
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97	-	-	SNP	-	-	-	-	-
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61	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-
93	-	-	-	-	-	-	-	-
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NJ-Tree, MIRU-VNTR [24]: Categorical (1), Spoligo: Categorical (1)

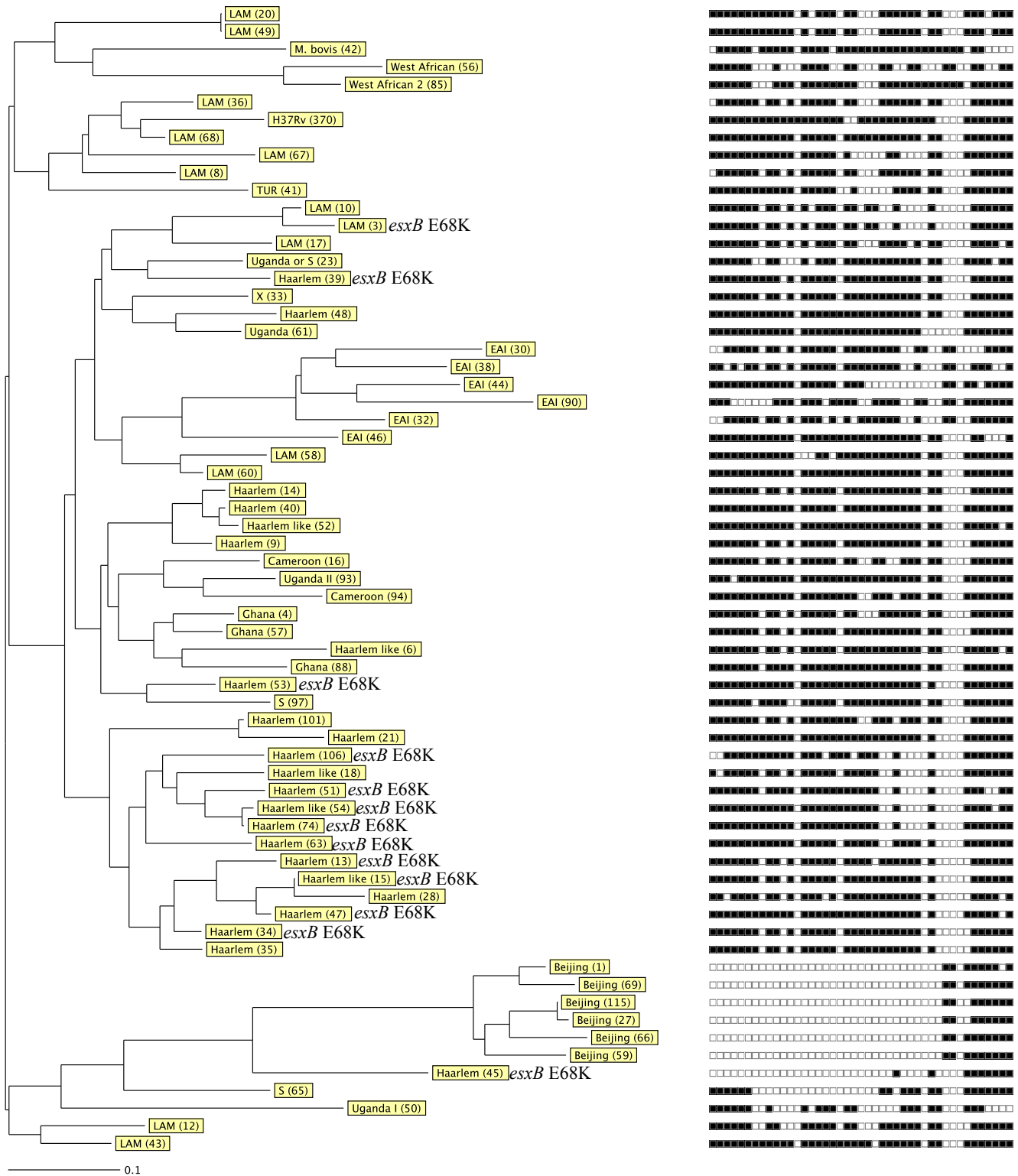


FIG S1. Neighbor-joining tree of 65 clinical isolates using available MIRU-VNTR and spoligotyping data. Note the coherency of the presence of the *esxB* E68K allele and the clades derived via genotyping.