

Additional File 1. SHV amino acid sequence variations of ESBL Egyptian isolates table.

	5	15	25	35	45	55
02-000429	MR <b>Y</b> T <b>R</b> CIIS	LLATLPLAVH	ASPQPLEQIK	<b>Q</b> SESQLSGRV	GMIEMDLASG	RTLTAWRAD
01-016401	MR <b>Y</b> T <b>R</b> CIIS	LLATLPLAVH	ASPQPLEQIK	<b>L</b> SESQLSGRV	GMIEMDLASG	RTLTAWRAD
03-002582	MR <b>Y</b> T <b>R</b> CIIS	LLATLPLAVH	ASPQPLEQIK	<b>Q</b> SESQLSGRV	GMIEMDLASG	RTLTAWRAD
03-018785	MR <b>Y</b> T <b>R</b> CIIS	LLATLPLAVH	ASPQPLEQIK	<b>L</b> SESQLSGRV	GMIEMDLASG	RTLTAWRAD
01-007724	MR <b>Y</b> T <b>R</b> CIIS	LLATLPLAVH	ASPQPLEQIK	<b>Q</b> SESQLSGRV	GMIEMDLASG	RTLTAWRAD
01-007743	MR <b>Y</b> T <b>R</b> <b>L</b> CIIS	LLATLPLAVH	ASPQPLEQIK	<b>Q</b> SESQLSGRV	GMIEMDLASG	RTLTAWRAD
01-007951	MR <b>F</b> <b>V</b> <b>R</b> CIIS	LLATLPLAVH	ASPQPLEQIK	<b>Q</b> SESQLSGRV	GMIEMDLASG	RTLTAWRAD
01-008666	MR <b>F</b> <b>V</b> <b>R</b> CIIS	LLATLPLAVH	ASPQPLEQIK	<b>Q</b> SESQLSGRV	GMIEMDLASG	RTLTAWRAD
01-013906	MR <b>F</b> <b>V</b> <b>R</b> CIIS	LLATLPLAVH	ASPQPLEQIK	<b>L</b> SESQLSGRV	GMIEMDLASG	RTLTAWRAD
01-018867	MR <b>F</b> <b>V</b> <b>R</b> CIIS	LLATLPLAVH	ASPQPLEQIK	<b>Q</b> SESQLSGRV	GMIEMDLASG	RTLTAWRAD
03-021322	MR <b>F</b> <b>V</b> <b>R</b> CIIS	LLATLPLAVH	ASPQPLEQIK	<b>Q</b> SESQLSGRV	GMIEMDLASG	RTLTAWRAD
SHV-12 GB	MR <b>Y</b> T <b>R</b> <b>L</b> CIIS	LLATLPLAVH	ASPQPLEQIK	<b>Q</b> SESQLSGRV	GMIEMDLASG	RTLTAWRAD
SHV-5 GB H	MR <b>Y</b> T <b>R</b> <b>L</b> CIIS	LLATLPLAVH	ASPQPLEQIK	<b>L</b> SESQLSGRV	GMIEMDLASG	RTLTAWRAD
SHV-2a GB	MR <b>Y</b> T <b>R</b> <b>L</b> CIIS	LLATLPLAVH	ASPQPLEQIK	<b>L</b> SESQLSGRV	GMIEMDLASG	RTLTAWRAD
	65	75	85	95	105	115
02-000429	RFPMMSTFKV	VLCGAVLARV	DAGDEQLERK	IHYRQQDLVD	YSPVSEKHLA	DGMTVGELCA
01-016401	RFPMMSTFKV	VLCGAVLARV	DAGDEQLERK	IHYRQQDLVD	YSPVSEKHLA	DGMTVGELCA
03-002582	RFPMMSTFKV	VLCGAVLARV	DAGDEQLERK	IHYRQQDLVD	YSPVSEKHLA	DGMTVGELCA
03-018785	RFPMMSTFKV	VLCGAVLARV	DAGDEQLERK	IHYRQQDLVD	YSPVSEKHLA	DGMTVGELCA
01-007724	RFPMMSTFKV	VLCGAVLARV	DAGDEQLERK	IHYRQQDLVD	YSPVSEKHLA	DGMTVGELCA
01-007743	RFPMMSTFKV	VLCGAVLARV	DAGDEQLERK	IHYRQQDLVD	YSPVSEKHLA	DGMTVGELCA
01-007951	RFPMMSTFKV	VLCGAVLARV	DAGDEQLERK	IHYRQQDLVD	YSPVSEKHLA	DGMTVGELCA
01-008666	RFPMMSTFKV	VLCGAVLARV	DAGDEQLERK	IHYRQQDLVD	YSPVSEKHLA	DGMTVGELCA
01-013906	RFPMMSTFKV	VLCGAVLARV	DAGDEQLERK	IHYRQQDLVD	YSPVSEKHLA	DGMTVGELCA
01-018867	RFPMMSTFKV	VLCGAVLARV	DAGDEQLERK	IHYRQQDLVD	YSPVSEKHLA	DGMTVGELCA
03-021322	RFPMMSTFKV	VLCGAVLARV	DAGDEQLERK	IHYRQQDLVD	YSPVSEKHLA	DGMTVGELCA
SHV-12 GB	RFPMMSTFKV	VLCGAVLARV	DAGDEQLERK	IHYRQQDLVD	YSPVSEKHLA	DGMTVGELCA
SHV-5 GB H	RFPMMSTFKV	VLCGAVLARV	DAGDEQLERK	IHYRQQDLVD	YSPVSEKHLA	DGMTVGELCA
SHV-2a GB	RFPMMSTFKV	VLCGAVLARV	DAGDEQLERK	IHYRQQDLVD	YSPVSEKHLA	DGMTVGELCA

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	125	135	145	155	165	175
02-000429	AAITMSDNSA	ANLLLATVGG	PAGLTAFLRQ	IGDNVTRLDR	WETELNEALP	GDARDTTTPA
01-016401	AAITMSDNSA	ANLLLATVGG	PAGLTAFLRQ	IGDNVTRLDR	WETELNEALP	GDARDTTTPA
03-002582	AAITMSDNSA	ANLLLATVGG	PAGLTAFLRQ	IGDNVTRLDR	WETELNEALP	GDARDTTTPA
03-018785	AAITMSDNSA	ANLLLATVGG	PAGLTAFLRQ	IGDNVTRLDR	WETELNEALP	GDARDTTTPA
01-007724	AAITMSDNSA	ANLLLATVGG	PAGLTAFLRQ	IGDNVTRLDR	WETELNEALP	GDARDTTTPA
01-007743	AAITMSDNSA	ANLLLATVGG	PAGLTAFLRQ	IGDNVTRLDR	WETELNEALP	GDARDTTTPA
01-007951	AAITMSDNSA	ANLLLATVGG	PAGLTAFLRQ	IGDNVTRLDR	WETELNEALP	GDARDTTTPA
01-008666	AAITMSDNSA	ANLLLATVGG	PAGLTAFLRQ	IGDNVTRLDR	WETELNEALP	GDARDTTTPA
01-013906	AAITMSDNSA	ANLLLATVGG	PAGLTAFLRQ	IGDNVTRLDR	WETELNEALP	GDARDTTTPA
01-018867	AAITMSDNSA	ANLLLATVGG	PAGLTAFLRQ	IGDNVTRLDR	WETELNEALP	GDARDTTTPA
03-021322	AAITMSDNSA	ANLLLATVGG	PAGLTAFLRQ	IGDNVTRLDR	WETELNEALP	GDARDTTTPA
SHV-12 GB	AAITMSDNSA	ANLLLATVGG	PAGLTAFLRQ	IGDNVTRLDR	WETELNEALP	GDARDTTTPA
SHV-5 GB H	AAITMSDNSA	ANLLLATVGG	PAGLTAFLRQ	IGDNVTRLDR	WETELNEALP	GDARDTTTPA
SHV-2a GB	AAITMSDNSA	ANLLLATVGG	PAGLTAFLRQ	IGDNVTRLDR	WETELNEALP	GDARDTTTPA
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	185	195	205	215	225	235
02-000429	SMAATLRKLL	TSQRLSARSQ	RQLLQWMVDD	RVAGPLIRSV	LPAGWFIADK	TGASKRGARG
01-016401	SMAATLRKLL	TSQRLSARSQ	RQLLQWMVDD	RVAGPLIRSV	LPAGWFIADK	TGASKRGARG
03-002582	SMAATLRKLL	TSQRLSARSQ	RQLLQWMVDD	RVAGPLIRSV	LPAGWFIADK	TGASKRGARG
03-018785	SMAATLRKLL	TSQRLSARSQ	RQLLQWMVDD	RVAGPLIRSV	LPAGWFIADK	TGASKRGARG
01-007724	SMAATLRKLL	TSQRLSARSQ	RQLLQWMVDD	RVAGPLIRSV	LPAGWFIADK	TGASKRGARG
01-007743	SMAATLRKLL	TSQRLSARSQ	RQLLQWMVDD	RVAGPLIRSV	LPAGWFIADK	TGASKRGARG
01-007951	SMAATLRKLL	TSQRLSARSQ	RQLLQWMVDD	RVAGPLIRSV	LPAGWFIADK	TGASKRGARG
01-008666	SMAATLRKLL	TSQRLSARSQ	RQLLQWMVDD	RVAGPLIRSV	LPAGWFIADK	TGASKRGARG
01-013906	SMAATLRKLL	TSQRLSARSQ	RQLLQWMVDD	RVAGPLIRSV	LPAGWFIADK	TGASKRGARG
01-018867	SMAATLRKLL	TSQRLSARSQ	RQLLQWMVDD	RVAGPLIRSV	LPAGWFIADK	TGASKRGARG
03-021322	SMAATLRKLL	TSQRLSARSQ	RQLLQWMVDD	RVAGPLIRSV	LPAGWFIADK	TGASKRGARG
SHV-12 GB	SMAATLRKLL	TSQRLSARSQ	RQLLQWMVDD	RVAGPLIRSV	LPAGWFIADK	TGASKRGARG
SHV-5 GB H	SMAATLRKLL	TSQRLSARSQ	RQLLQWMVDD	RVAGPLIRSV	LPAGWFIADK	TGASKRGARG
SHV-2a GB	SMAATLRKLL	TSQRLSARSQ	RQLLQWMVDD	RVAGPLIRSV	LPAGWFIADK	TGASKRGARG

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	245	255	265	275	285
02-000429	IVALLGPNNK	AERIVVIYLR	DTPASMAERN	QQIAGIGAAL	IEHWQR
01-016401	IVALLGPNNK	AERIVVIYLR	DTPASMAERN	QQIAGIGAAL	IEHWQR
03-002582	IVALLGPNNK	AERIVVIYLR	DTPASMAERN	QQIAGIGAAL	IEHWQR
03-018785	IVALLGPNNK	AERIVVIYLR	DTPASMAERN	QQIAGIGAAL	IEHWQR
01-007724	IVALLGPNNK	AERIVVIYLR	DTPASMAERN	QQIAGIGAAL	IEHWQR
01-007743	IVALLGPNNK	AERIVVIYLR	DTPASMAERN	QQIAGIGAAL	IEHWQR
01-007951	IVALLGPNNK	AERIVVIYLR	DTPASMAERN	QQIAGIGAAL	IEHWQR
01-008666	IVALLGPNNK	AERIVVIYLR	DTPASMAERN	QQIAGIGAAL	IEHWQR
01-013906	IVALLGPNNK	AERIVVIYLR	DTPASMAERN	QQIAGIGAAL	IEHWQR
01-018867	IVALLGPNNK	AERIVVIYLR	DTPASMAERN	QQIAGIGAAL	IEHWQR
03-021322	IVALLGPNNK	AERIVVIYLR	DTPASMAERN	QQIAGIGAAL	IEHWQR
SHV-12 GB	IVALLGPNNK	AERIVVIYLR	DTPASMAERN	QQIAGIGAAL	IEHWQR
SHV-5 GB H	IVALLGPNNK	AERIVVIYLR	DTPASMAERN	QQIAGIGAAL	IEHWQR
SHV-2a GB	IVALLGPNNK	AERIVVIYLR	DTPASMAERN	QQIAGIGAAL	IEHWQR