

# A

<i>A. tumefaciens</i>	MNELGVHNPANGVAELGLGEASRVFYNLNESELYEHAI RNGEAELTIDGALRAV TGQHTG	60
<i>B. ovis</i>	MKETGIHNKAASISTSGLKELSAVFYNLGAAWLYEETIRRGEAELSAQ GALVARTGQHTG	60
<i>B. abortus</i>	MKETGIHNKAASISTSGLKELSAVFYNLGPARLYEETIRRGEAELSAQ GALVARTGQHTG	60
<i>B. suis</i>	MKETGIHNKAASISTSGLKELSAVFYNLGPARLYEETIRRGEAELSAQ GALVARTGQHTG	60
<i>A. tumefaciens</i>	RSPKDKFVVRDASTENTIWWDNNKPLSPENFELLRQDMLAHAAGK TLYVQDLIGGADEEN	120
<i>B. ovis</i>	RSPKDKFVVRDANTEDHVWWDNNKPMTP EAFELLYAD FIEHAKGRELFVQDLIGGADADN	120
<i>B. abortus</i>	RSPKDKFVVRDANTEDHVWWDNNKPMTP EAFELLYAD FIEHAKGRELFVQDLIGGADADN	120
<i>B. suis</i>	RSPKDKFVVRDANTEDHVWWDNNKPMTP EAFELLYAD FIEHAKGRELFVQDLIGGADADN	120
<i>A. tumefaciens</i>	ALPTRVVT ELAWHSLFIRNLLIRPKRETLSGFSQKLT IINLPSFKADPARHGVRSETVIA	180
<i>B. ovis</i>	KINARVITEYAWHSLFIRNLLIRPSQEALASYVPEMTIIDLPSFKADPERYGVRTETVIA	180
<i>B. abortus</i>	KINARVITEYAWHSLFIRNLLIRPSQEALASYVPEMTIIDLPSFKADPERYGVRTETVIA	180
<i>B. suis</i>	KINARVITEYAWHSLFIRNLLIRPSQEALASYVPEMTIIDLPSFKADPERYGVRTETVIA	180
<i>A. tumefaciens</i>	CDLTNGLV L <u>IGGTSYAGE</u> <u>NKKS</u> VFTVLNYLLPAKGVM PMHCSANVGPEGDSAVFF <u>GLSGT</u>	240
<i>B. ovis</i>	VDLTRKIVL <u>IGGTSYAGE</u> <u>MKKS</u> VFTALNYILPAKGVM PMHCSANEGPNGDTAVFF <u>GLSGT</u>	240
<i>B. abortus</i>	VDLTRKIVL <u>IGGTSYAGE</u> <u>MKKS</u> VFTALNYILPAKGVM PMHCSANEGPNGDTAVFF <u>GLSGT</u>	240
<i>B. suis</i>	VDLIRKIVL <u>IGGTSYAGE</u> <u>MKKS</u> VFTALNYILPAKGVM PMHCSANEGPNGDTAVFF <u>GLSGT</u>	240
<i>A. tumefaciens</i>	<u>GKT</u> TLSADPARTLIGDDEHGWGEH <u>G</u> I FN F <u>EG</u> GCYAKAIKLSSEAEPEIYAATNRF GTVLE	300
<i>B. ovis</i>	<u>GKT</u> TLSADPTRLIGDDEHGWGEH <u>G</u> V FN F <u>EG</u> GCYAKTIRLSAEAEPEIYATTQRF GTVLE	300
<i>B. abortus</i>	<u>GKT</u> TLSADPTRLIGDDEHGWGEH <u>G</u> V FN F <u>EG</u> GCYAKTIRLSAEAEPEIYATTQRF GTVLE	300
<i>B. suis</i>	<u>GKT</u> TLSADPTRLIGDDEHGWGEH <u>G</u> V FN F <u>EG</u> GCYAKTIRLSAEAEPEIYATTQRF GTVLE	300
<i>A. tumefaciens</i>	NVVLDES RVPDFNDNSLTENTRSAYPLHFIPNASETGIAGHPKT <u>IIML</u> TADAFGVLPPIA	360
<i>B. ovis</i>	NVVL DENRQPDFDDGSLTENTRCAYPLDFIPNASKSGKGGQPKN <u>IIML</u> TADAFGVMPPIA	360
<i>B. abortus</i>	NVVL DENRQPDFDDGSLTENTRCAYPLGFIPNASKSGKGGQPKN <u>IIML</u> TADAFGVMPPIA	360
<i>B. suis</i>	NVVL DENRQPDFDDGSLTENTRCAYPLDFIPNASKSGKGGQPKN <u>IIML</u> TADAFGVMPPIA	360
<i>A. tumefaciens</i>	RLTPEQAMYHFLSGYTAKVAGTEKGVTEPEATFSTCFGAPFMPRHPAEYGNLLRELIGKH	420
<i>B. ovis</i>	KLTPAQAMYHFLSGYTAKVAGTEKGVTEPEATFSTCFGAPFMPRHPSEYGNLLRKLIA <b>ST</b>	420
<i>B. abortus</i>	KLTPAQAMYHFLSGYTAKVAGTEKGVTEPEATFSTCFGAPFMPRHPSEYGNLLRKLIAEH	420
<i>B. suis</i>	KLTPAQAMYHFLSGYTAKVAGTEKGVTEPEATFSTCFGAPFMPRHPSEYGNLLRKLIAEH	420
<i>A. tumefaciens</i>	G-VDCWL VNTGWTGG---AYGIGKRMP IKATRALLTAALTGDLKNAQFR TDANFGFAVPL	476
<i>B. ovis</i>	<b>RLIAGWSIPAGRAALTALASGCRSRQPAR</b> ----- <b>FWQRPSTAR</b> ----	458
<i>B. abortus</i>	KV-DCWL VNTGWTGG---AYGVGKRMP IKATRALLAAALDGS LNNAEFRIDPNFGFAVPV	476
<i>B. suis</i>	KV-DCWL VNTGWTGG---AYGVGKRMP IKATRALLAAALDGS LNNAEFRIDPNFGFAVPV	476
<i>A. tumefaciens</i>	SLDGV DGA ILDRPSTWADGAAYDAQAKKLVSMFVSNFTK FEDHVDSKVRDAAPGLLLAAE	536
<i>B. ovis</i>	-----	458
<i>B. abortus</i>	EVPGV ESSI LDRPST-----	491
<i>B. suis</i>	EVPGV ESSI LDRPSTWADKVAYDAQAKKLVDMFVSNFEKFESHVDHEVKDAAPAIRMAAE	536

# B

<i>B. ovis</i>	MAKWVYTFGDGKAEGAASDRNLLGGKGANLAEMSSLGLPVPPGFITITTEVCTYYYNNDRV	60
<i>B. abortus</i>	MAKWVYTFGDGKAEGAASDRNLLGGKGANLAEMSSLGLPVPPGFITITTEVCTYYYNNDRV	60
<i>B. suis</i>	MAKWVYTFGDGKAEGAASDRNLLGGKGANLAEMSSLGLPVPPGFITITTEVCTYYYNNDRV	60
<i>B. ovis</i>	YPSELDAQVQAALAHIAATLTGRNFGDAEKPLLVSVRSGARASMPGMMDTVNLGLNDETV	120
<i>B. abortus</i>	YPSELDAQVQAALAHIAATLTGRNFGDAEKPLLVSVRSGARASMPGMMDTVNLGLNDETV	120
<i>B. suis</i>	YPSELDAQVQAALAHIAATLTGRNFGDAEKPLLVSVRSGARASMPGMMDTVNLGLNDETV	120
<i>B. ovis</i>	QAIARESGDERFAYDSYRRFIQMYSDVVLGVDHGFFEEILEDTKADLGVEVDTALSVDW	180
<i>B. abortus</i>	QAIARESGDERFAYDSYRRFIQMYSDVVLGVDHGFFEEILEDTKADLGVEVDTALSADDW	180
<i>B. suis</i>	QAIARESGDERFAYDSYRRFIQMYSDVVLGVDHGFFEEILEDTKADLGVEVDTALSADDW	180
<i>B. ovis</i>	KNVIGLYKAKVEEELGQFPQDPREQLWGAIGAVFSSWMNARAI TYRRLHNI PAAWGTAV	240
<i>B. abortus</i>	KNVIGLYKAKVEEELGQFPQDPREQLWGAIGAVFSSWMNARAI TYRRLHNI PAAWGTAV	240
<i>B. suis</i>	KNVIGLYKAKVEEELGQFPQDPREQLWGAIGAVFSSWMNARAI TYRRLHNI PAAWGTAV	240
<i>B. ovis</i>	NVQAMVFGNMGETSATGVAFTRNPSTGENKLYGEFLVNAQGEDVVAGIRTPQNI TEEARI	300
<i>B. abortus</i>	NVQAMVFGNMGETSATGVAFTRNPSTGENKLYGEFLVNAQGEDVVAGIRTPQNI TEEARI	300
<i>B. suis</i>	NVQAMVFGNMGETSATGVAFTRNPSTGENKLYGEFLVNAQGEDVVAGIRTPQNI TEEARI	300
<i>B. ovis</i>	AAGSDKPSLEKEMPEAFAEFLKVANRLEQHYRDMQDLEFTIERGKLWMLQTRSGKRTARA	360
<i>B. abortus</i>	AAGSDKPSLEKVMPEAFAEFLKVANRLEQHYRDMQDLEFTIERGKLWMLQTRSGKRTARA	360
<i>B. suis</i>	AAGSDKPSLEKVMPEAFAEFLKVANRLEQHYRDMQDLEFTIERGKLWMLQTRSGKRTARA	360
<i>B. ovis</i>	ALKMAVEMAAEGLISEEEAVLRIDPAALDQLLHPTIDPRAERQVVMGLPASPGAATGEI	420
<i>B. abortus</i>	ALKMAVEMAAEGLISEEEAVLRIDPAALDQLLHPTIDPRAERQVVMGLPASPGAATGEI	420
<i>B. suis</i>	ALKMAVEMAAEGLISEEEAVLRIDPAALDQLLHPTIDPRAERQVVMGLPASPGAATGEI	420
<i>B. ovis</i>	VFSSEEAQAKAEGRNVLIVRIETSPEDIHGMHAAEGILTRGGMTSHAAVVARGMGKPC	480
<i>B. abortus</i>	VFSSEEAQAKAEGRNVLIVRIETSPEDIHGMHAAEGILTRGGMTSHAAVVARGMGKPC	480
<i>B. suis</i>	VFSSEEAQAKAEGRNVLIVRIETSPEDIHGMHAAEGILTRGGMTSHAAVVARGMGKPC	480
<i>B. ovis</i>	VSGAGSLRVDYRNGTMLAAGQTRFKGDVITIDGASGQVLKGSVAMLQPELSGDFGKLEW	540
<i>B. abortus</i>	VSGAGSLRVDYRNGTMLAAGQTRFKGDVITIDGASGQVLKGSVAMLQPELSGDFGKLEW	540
<i>B. suis</i>	VSGAGSLRVDYRNGTMLAAGQTRFKGDVITIDGASGQVLKGSVAMLQPELSGDFGKLEW	540
<i>B. ovis</i>	ADRARRMKVRANAETPADARTARSFGAEGIGLCRTEHMFFDGSRIVAMREMILSDTEEGR	600
<i>B. abortus</i>	ADRARRMKVRANAETPADARTARSFGAEGIGLCRTEHMFFDGSRIVAMREMILSDTEEGR	600
<i>B. suis</i>	ADRARRMKVRANAETPADARTARSFGAEGIGLCRTEHMFFDGSRIVAMREMILSDTEEGR	600
<i>B. ovis</i>	RLALAKLLPMQRSDFAELEIMKGLPVTIRLLDPLHEFLPHTDDEEVDEVARSMGVDAAK	660
<i>B. abortus</i>	RLALGKLLPMQRSDFAELEIMKGLPVTIRLLDPLHEFLPHTDDEEVDEVARSMGVDAAK	660
<i>B. suis</i>	RLALAKLLPMQRSDFAELEIMKGLPVTIRLLDPLHEFLPHTDDEEVDEVARSMGVDAAK	660
<i>B. ovis</i>	LRDRADALHEFNPLGHRGCR LAVSYPEIAEMQARAI FEA AVEAGKKTGEPVVPVPEVMVPL	720
<i>B. abortus</i>	LRDRADALHEFNPLGHRGCR LAVSYPEIAEMQARAI FEA AVEAGKKTGEPVVPVPEVMVPL	720
<i>B. suis</i>	LRDRADALHEFNPLGHRGCR LAVSYPEIAEMQARAI FEA AVEAGKKTGEPVVPVPEVMVPL	720
<i>B. ovis</i>	VGLKAELDFVKARIDAVAKEVMSEAGIKIDYMGVTMIELPRAALRAAEIAESAEFFSFGT	780
<i>B. abortus</i>	VGLKAELDFVKARIDAVAKEVMSEAGIKIDYMGVTMIELPRAALRAAEIAESAEFFSFGT	780
<i>B. suis</i>	VGLKAELDFVKARIDAVAKEVMSEAGIKIDYMGVTMIELPRAALRAAEIAESAEFFSFGT	780
<i>B. ovis</i>	NDLTQTTFGISRDDAAGFLT TYQNRGVIEQDPFVSLDVG V GELVQIAAERGRKTRKIK	840
<i>B. abortus</i>	NDLTQTTFGISRDDAAGFLT TYQNRGVIEQDPFVSLDVG V GELVQIAAERGRKTRKIK	840
<i>B. suis</i>	NDLTQTTFGISRDDAAGFLT TYQNRGVIEQDPFVSLDVG V GELVQIAAERGRKTRKIK	840
<i>B. ovis</i>	LGICGEHGGDPASIAFY EKTGLDYVSCSPFRVPIARLAAAQA AVRKV 887	
<i>B. abortus</i>	LGICGEHGGDPASIAFCEKTGLDYVSCSPFRVPIARLAAAQA AVRKV 887	
<i>B. suis</i>	LGICGEHGGDPASIAFCEKTGLDYVSCSPFRVPIARLAAAQA AVRKV 887	