

Supplementary Appendix: Description of the Heptapeptide Sharing between Pathogens and Mammals

Supplementary Table S1 Poliovirus type 1 (strain Mahoney) (NCBI:taxid 12081)

Organism	N°	Shared heptapeptides
<i>Bos taurus</i>	13	EAFSKY, EVEILDA, GFAAALK, LEALDLS, VEILDAK, ATLALLG, CPRPPRA, IITAGGE, PGAPVPE, QISDKIT, TKLRQLE, VTKLRQL, VLQLTLG
<i>Canis lupus familiaris</i>	5	LEALDLS, LLLKTYK, ATLALLG, CPRPPRA, QMLESMI
<i>Felis catus</i>	2	LEALDLS, QMLESMI
<i>Gorilla gorilla gorilla</i>	1	GDSLYGA
<i>Homo sapiens</i>	59	AAVAGVV, AGSAPLS, APLSVFT, CTGKVG, EAFSKY, EALDLST, EDAMYGT, EVDASLL, EVEILDA, GFAAALK, LEALDLS, LLLKTYK, LLLPEYS, LQAVDSQ, RALLPE, SAPLSVF, VEILDAK, AAKGLEW, AALGDSL, ATLALLG, CPRPPRA, DGTTLPL, EKLLKNL, GAPVPEK, GDSLYGA, GTGKSV, GTLTPLS, GVVIMDD, IITAGGE, KGLEWVS, KLLKNLI, LASTNSS, LATLALL, LGCDASP, PGTGKSV, PPGAPVP, QISDKIT, RPPRAVA, RSRSESS, RYVLPKP, SLPPDPS, SRISPPT, TKLRQLE, VNDHNPT, ATGKLLV, IVVPLST, KNTMEMY, LGNGTLL, LLGNAFV, LLGNGTL, LSLSPAS, PNTEASG, PREMDIL, PVDYLLG, QKALAQG, QMLESMI, TGKLLVS, VVPLSTP, YLRDSEA
<i>Mus musculus</i>	38	AGSAPLS, DASLSPA, EAFSKY, EDAMYGT, EEAIFSK, EVDASLL, GFAAALK, GKSRLE, IGRALLL, IYLFAGS, KEMQKLL, KSRLIEA, LEALDLS, LLLKTYK, LLLPEYS, LQAVTTF, MSLDINT, RALLPE, AALGDSL, ALARRFA, ATLALLG, CPRPPRA, DGTTLPL, EILFNNV, FSDIRDL, GDSLYGA, GTLTPLS, IITAGGE, KDGTLP, LATLALL, LYGAASL, PPGAPVP, QLEMLEN, RPPRAVA, SCPSQEH, SLEEKGI, TKLRQLE, VPPGAPV
<i>Oryctolagus cuniculus</i>	8	AAVAGVV, EAFSKY, EVDASLL, AALGDSL, CPRPPRA, TKLRQLE, LPLAPLN, QMLESMI
<i>Pan troglodytes</i>	1	GDSLYGA
<i>Rattus norvegicus</i>	27	EAFSKY, EDAMYGT, EVDASLL, FHYVFEG, GFAAALK, GLPNKKP, IGRALLL, LEALDLS, LLLKTYK, ALARRFA, ATLALLG, CPRPPRA, EILFNNV, FTSNYVL, IITAGGE, KDTVQLR, LATLALL, LYGAASL, QISDKIT, RSRSESS, APPGADP, ATGKLLV, LLGNGTL, PVDYLLG, QMLESMI, VVPLSTP, YLRDSEA
<i>Sus scrofa</i>	4	EALKMVL, GFAAALK, LEALDLS, CPRPPRA

Supplementary Table S2 Measles virus (strain Edmonston-Zagreb vaccine) (NCBI:taxid 70149)

Organism	N°	Shared heptapeptides
<i>Bos Taurus</i>	34	ACQVIAE, ALLPAPI, KDKALAA, LARALRS, LASLMPE, LLGLGVL, NVSLEEL, QLARALR, SLEELRV, SQSLKSI, AVLLTQ, EIAEYRR, EPGEDGL, KDTIEKL, LLNEELE, LLSSFLS, VGLVEHR, VLLTLQT, DVE-TAEG, GPGAPAG, PPPDPG, SLSLLDL, SSNLVIL, VLTPLFK, DVETAEG, GLSRPSP, IKKGHRR, IPLDTPQ, KLESLLL, LDTPQRF, LESLLLL, PPPDPG, SEVVSAD, VFALGGI
<i>Canis lupus familiaris</i>	6	EAVTAAE, LGSELRE, LREDIKE, VSLEELR, KDTIEKL, ALIQEWT
<i>Felis catus</i>	1	GPASRSV
<i>Gorilla gorilla gorilla</i>	1	GLGDRKD
<i>Homo sapiens</i>	140	ACQVIAE, ALAALQR, ALLPAPI, CHRRRHT, CSVQLAR, DKESTRK, EAVTAAE, ELLISRD, ELRAELC, ESMRGHL, GIYYDGL, GSRRLLV, GTGSRR, HPRLEAV, IRASMRK, LAVSGVP, LLGLGVL, LLVSQSL, LNDSSFD, LREDIKE, NAQASGE, PDVLESM, PSRSLRS, RLARGRP, RLEAVTA, SELREDI, SLEELRV, SLFAQRL, SPVHTST, SQSLKSI, SRLGLS, SRRLVDV, SVELLIS, TCHRRRH, TGRKRN, TKGLIRA, TSLRVA, TVELRGA, VINLGVY, AEVNVSQ, AVLLTQ, CSLTYLR, DLIGQKL, EIAEYRR, EYRLLR, GEDGLFL, GIKARIT, GPSLRDP, HCGIIEP, KDTIEKL, KLEELAA, KLVGYSA, LCKELIH, LEKLGYS, LIGQKLG, LLNEELE, LLSSFLS, LNEELE, LRASLET, LSPAGSS, LTLQPT, NIFVKNL, PVLVSSR, RELISRI, RVDPGFI, SSRQREL, SSVRTSP, VGLVEHR, VLLTLQT, AGSSGLS, AKELLES, ASLLTGG, DNESENS, DVETAEG, EELMNAL, EISDNPG, ELSQLSM, FLSLIGL, FGPLIT, GLLAIAG, GPGAPAG, HELLRLQ, KELLESS, KRSELSQ, LEDAKEL, LGELKLA, LLAIAGI, NLDVTNS, PGLGAPV, RLHRAAI, RSMKGLS, SDVDIGE, SELSLS, SGFGPLI, SGPGAPA, SLSLLDL, SNMSLSL, SSNLVIL, VLFVMFL, VLLAVLF, VLTPLFK, YPDAVYL, ADVEINP, AGSSGLS, AVKRLRE, AVLQPSV, DLERAMT, DNESENS, DNGYYTV, DVEINPD, DVETAEG, EISDNPG, FLLGVVE, GLGDRKD, GPASRSV, GRALAEV, HELLRLQ, HIRSTGK, IPGLGKD, ISISTLE, KLESLLL, LAKIHE, LESLLLL, LKEATEL, LLKEATE, LLKEFQL, LSRPSPS, QKEGRST,

(Continued)

Supplementary Table S2 (Continued)

Organism	N°	Shared heptapeptides
		RQAVRVS, SDVDIGE, SGLSRPS, SKLESLL, SKMLTLS, SLTGDLL, SRPSPSA, SSRLEED, SVIRSII, VFALGGI, VKRLRES, VRIQAVL
<i>Macaca mulatta</i>	1	GLGDRKD
<i>Mus musculus</i>	106	ACQVIAE, ALAALQR, ALLPAPI, DPHCPPD, EAVTAAE, EGYCQKL, ELRAELC, ESMRGHL, GIYYDGL, GSRRLVD, GSSNTVL, GTGSRRL, IPSSRKL, KRLETSV, LLGLGVL, LLVSQSL, NVSLEEL, PDVLESM, PSRSLRS, SDLTMYL, SLEELRV, SLKEKEI, SQSLKSI, SRRLVDV, SRSLRSA, SSVELLI, SVELLIS, SVLYVSD, TGRKRNV, TGSNTV, VELLISR, VINLGVY, YLTFELV, AVLLTLQ, CSLTYLR, DLIGQKL, EELAAIL, EIAEYRR, EYRRLLR, HCGIIEP, HHDVASG, KDTIEKL, LAGAALG, LEKLGYS, LEPGEDG, LRASLET, PGEDGLF, PVLVSSR, SILVIKL, SSACYKA, SSRQREL, TAGIALH, VGLVEHR, VLLTLQT, AGSSGLS, ASFGTEI, DGDVKLS, DVETAEG, EELMNAL, EISDNPG, FLSLIGL, GFGPLIT, GKGVSFQ, GPGAPAG, GSSGLSK, HELLRLQ, HGSGMDL, LEDAKEL, LGELKLA, PPPDPG, REEKAGS, RLHRAAI, SGFGPLI, SGPGAPA, SLSLLDL, SSNLVIL, STDDPVI, VLLAVLF, VLTPLFK, VRSMLSP, YGVLSVD, YVLLAVL, AGSSGLS, AVLQPSV, DNGYYTV, DVETAEG, EISDNPG, EVYSADY, FLLGVVE, GPASRSV, GRALAEV, GSSGLSK, HELLRLQ, ISKLESL, KSSRLEE, LKEATEL, LLKEATE, LLKEFQL, LPSLWGS, PPPDPG, QLPEATF, REEKAGS, RTSSRGQ, SKLESLL, SKMLTLS, STAKPEK
<i>Oryctolagus cuniculus</i>	5	LRGAFLN, EIAEYRR, GFGPLIT, SGFGPLI, GPASRSV
<i>Pan troglodytes</i>	5	KEEDEGL, RELISRI, SNMSLSL, GLGDRKD, SLTGDLL
<i>Rattus norvegicus</i>	55	ALLPAPI, EAVTAAE, ESMRGHL, GIYYDGL, GSSNTVL, GTGSRRL, IPSSRKL, LLGLGVL, PDVLESM, QGMILLG, SLEELRV, SQSLKSI, STRNVRA, TGRKRNV, TPISTST, TVELRGA, VINLGVY, VYSKGIY, YLTFELV, EIAEYRR, GPSLRDP, KDTIEKL, LAGAALG, PVLVSSR, VLLTLQT, VVLAGAA, YLDLLL, YYTEILS, DGDVKLS, DVETAEG, EELMNAL, EISDNPG, GFGPLIT, GKGVSFQ, GLSSTSI, GPGAPAG, KGLSSTS, PPPDPG, SGFGPLI, SLSLLDL, VLTPLFK, YGVLSVD, DNGYYTV, DVETAEG, EISDNPG, GPASRSV, KLESLLL, KSSRLEE, LLKEFQL, LPSLWGS, PPPDPG, QLKPIGK, QLPEATF, RQAVRVS, SKMLTLS
<i>Sus scrofa</i>	5	EVPDVLE, LLGLGVL, EIAEYRR, GDLLGIL, SEVYSAD

Supplementary Table S3 Dengue virus type 1 (strain Nauru/West Pac/1974) (NCBI:taxid 11059)

Organism	N°	Shared heptapeptides
<i>Bos taurus</i>	25	AGLAFSL, AKRGTAQ, DLGCGRG, GAGWSLR, GEKWKRO, QAAILMG, RDLRLAA, CVTKLEG, KLLSGQ, KYSVIVT, LTGATEI, RGKSLLF, AMILSIV, EVDSFSL, GEVDSFS, ILLSLL, KIKDEER, LLSLLK, PVLGSL, TTNIWLK, EGEVGAI, GKEIVDL, IIMDEAH, LSGRGLG, LVLAPTR
<i>Canis lupus familiaris</i>	3	QAAILMG, ASTSQET, LLLTVGL
<i>Gorilla gorilla gorilla</i>	1	EHGTTAT
<i>Homo sapiens</i>	89	AGAGLAF, AGLAFSL, AKRGTAQ, DLGCGRG, ERELHKQ, ETLEQMQ, GAGWSLR, LFMILTA, LFMILT, NTTANIS, PSGSASS, QAAILMG, RDLRLAA, SLIGLTA, TLATGPL, TNIQVAI, VAVEPEV, VDLHPAS, VMDVISR, YADDTAG, AGEKALK, ALTLDCS, EHGTTAT, FLAIPPT, GAGEKAL, GKIVQYE, GKMFEAT, GLSGATW, GSLITCA, KLLSGQ, KMFEATA, LGSQEGA, LLMLLPT, NLKYSVI, PAVLRKL, RGKSLLF, VSQAKR, VVLGSQE, YGTCSQT, YIVVGAG, ADLSLEK, DVSGILA, ELGDGLA, EVEDYGF, FAVGLLF, GDVSGIL, GIVSILL, GLLFRRL, GSGIFVT, HLGKLEL, ILLSLL, KIWRGRS, KLELDFD, LGKLELD, LIHQIFG, LLKATLL, LLTMGQ, LLSLTFV, LPNSLEE, LSLVASV, LTSREVL, NGVLESE, PSRLTTT, PVLGSL, SSADLSL, VLLTVG, DFPKTV, EGEVGAI, EREKSAA, GKEIVDL, IIMDEAH, KPGTSGS, KRIVVQLS, LKPVILK, LLSPVRV, LREFKEF, LVLAPTR, PGTSGSP, PPGSVEA, PSPPEVE, PVTVASA, RLRGEAR, SPPEVER, TEAKMLL, TMLLAL, TSPPEV, VGLYGNG, VRTLVLVA, VTVASAA
<i>Mus musculus</i>	80	AGAGLAF, AKRGTAQ, CLGKSYA, ESDPEGA, FEKQLGQ, FSPSELE, GDDCVVK, GETLGEK, LFMILTA, LLATSIF, LFMILT, MEAQLIR, NMEAQLI, NTTANIS, QAAILMG, RDLRLAA, VAVEPEV, VDLHPAS, YADDTAG, AGEKALK, ALTLDCS, AMDLDEL, EVVVLGS, GKIVQYE, GKMFEAT, GLSGATW, KLLSGQ, KMFEATA, LGSQEGA, LLMLLPT, LTGATEI, LVMAFIA, QEVVVLG, TQNGRLI, AEHS GAS, AGPWHLG, CLSTTSQ, EVEDYGF, FAVGLLF, GLLFRRL, GLSLVAS, GPSLRTT, GSGIFVT, GSGGVF, HLGKLEL, ILLSLL, KLELDFD, LGCKPLT, LGKLELD, LLKATLL, LLLTVGL, LSLVASV, LSSLLKN, LTSREVL, PSRLTTT, SILLSSL, SNGVLES, SLLKND, TVGLSLV, DPRRCLK, EGEVGAI, ERAVLDD, EREKSAA, ERKKLRP, GKEIVDL, HPGSGKT, IVREAIR, KEGERKK, LLSPVRV, LREFKEF, LVLAPTR, PPGSVEA, QEGPLPE, RLRGEAR, TSPPEV, VGLYGNG, VREAIRR, VRTLVLVA, VTVASAA, YVVTDDI
<i>Oryctolagus cuniculus</i>	6	AGAGLAF, KRQLNQL, GSGIFVT, GMGEEAA, LVLAPTR, QRGLLGR
<i>Pan troglodytes</i>	3	EHGTTAT, YSVIVTV, LVLAPTR

Supplementary Table S3 (Continued)

Organism	N°	Shared heptapeptides
<i>Rattus norvegicus</i>	37	AGAGLAF, AKRGTQAQ, CLGKSYA, LAANAIC, LFMILTA, LLMILTA, NTTANIS, QAAILMG, RDLRLAA, SLIGLTA, TTLWEGS, VAVEPEV, YAVATTI, AGEKALK, AKISNTT, GKMFEAT, KMFEATA, LGSQEGA, AEHSGAS, CLSTTSQ, GLSLVAS, GSGIFVT, GSIGGVF, HLGKLEL, LGKLELD, LSIVSLF, LTSREVL, PSLRTRT, QLWATLL, GKEIVDL, IVREAIR, LVLAPTR, MRLLSPV, TPSPEV, VREAIRR, VTVASAA, YVVTTDI
<i>Sus scrofa</i>	3	QAAILMG, QNKVVRV, RDLRLAA

Supplementary Table S4 Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (NCBI:taxid 2697049)

Organism	N°	Shared heptapeptides
<i>Bos taurus</i>	70	DFTEERL, AMQRKLE, ASAVVLL, AVVLLIL, EKMVSLL, LFLPSL, LGVGGPK, NYEPLTQ, QARSEDK, SLLSVLL, YNYEPLT, ADVWEKF, ASKILGL, DPAQLPA, EYFNSVC, FEKGDYD, GPPGTGK, HISTIGV, NVAITRA, PPGTGKS, RYPANSI, VAITRAK, VDLFRNA, VLSNLNL, YPANSIV, EILQKEK, ESGLKTI, GAKLKAL, KDLLARA, KGKAKKG, SEARQHL, SGLKTI, EKTKTLV, IALKGGK, KGGKIVN, LIWNVVD, TLATHGL, TSNSFDV, VDNSSLT, FKNLREF, FVSDADS, KVVKVTI, LDDDFVE, PQTLEIL, QTLEILD, TRAGCLI, LDKYFKN, LLLVAAG, LVKQLSS, RVAGDSG, SHLLVA, SSTASAL, TTTSVPL, AALALLL, AEGSRGG, ALALLLL, DAALALL, GKMKDLS, LALLLLD, PSASAFF, SRSSRS, EEEQEE, EVKPFIT, IPKEEVK, KHGGGVA, LKHGGGV, LLAPLLS, NLKTLLS, PEEEQEE, VVADAVI
<i>Canis lupus familiaris</i>	15	APGTAVL, GPPGTGK, KGKAKKG, LKHGGGV, IALKGGK, VDNSSLT, DTSLSGF, EKMVSLL, VAGGIVA, ALITLAT, LALITLA, LLLVAAG, SVLLFLA, TVEELKK, VFLLVTL
<i>Felis catus</i>	1	DTSLSGF
<i>Gorilla gorilla gorilla</i>	1	LKTLLSL, ALITLAT, LALITLA
<i>Homo sapiens</i>	281	DFTEERL, DTLKEIL, GGTSSGD, GNLLDK, GSGVPV, GTSSGDA, HAASGNL, HQKLLKS, ILTTRA, KLVLSVN, LGERVRQ, LLSLDLQD, PGSGVPV, PLVRKIF, QDALFAY, RARTVAG, RLSFKEL, RQLLFV, SRQLTK, SSGDATT, TVLQAVG, VDAAKAY, VRQALLK, YGCSCDQ, AGKASCT, EEIAILL, EEEVLT, EIKDTEK, ESGLKTI, EVEKGLV, EVLTEE, FIKRSDA, GAKLKAL, GETLPTE, KDLLARA, KFLALCA, KGKAKKG, LARAGKA, LASFSAS, LEILQKE, LVAELEG, PQLEQPY, RVEKTKL, SCGNFKV, SEARQHL, SGLKTI, SVEEVLS, TEEVVLK, TENLTKE, VEKGVLP, APGTAVL, CVCSVID, DEVRQIA, DKVFRSS, FKNLREF, FLPPFSN, FVSDADS, GRLLIRE, IGAGICA, IQQLLAL, KLNDLCF, KTKNVTK, KVVKVTI, LDDDFVEI, LHLIIGL, LSLLSKG, PGTAVLR, QRMLLEK, RARVAS, RRARVA, SLLIVNN, SPRRARS, SSSGWTA, TLIGEAV, TRFQTL, VSGTNGT, VTLIGEA, VYSTGSN, AALALLL, AEGSRGG, ALALLLL, DAALALL, DKKKKAD, FLVFLGI, FTLKRKT, GKMKDLS, KADETQA, KDKKKKA, KDKKKK, KLGSLLV, LGIITTV, LLLDRL, LLPAADL, LVFLGII, NSSPDDQ, RGQGVPI, RPQGLPN, RQEEVQE, RSSRSR, SKQLQQS, SMSSADS, SRGGSQA, SRSRNS, SRSSRS, SSRSSR, VAAIVFI, VLQLPQG, ADVWEKF, AENVTVL, APTLVVQ, DIPGIPK, EYFNSVC, FNVAITR, GKPRPPL, GPPGTGK, HISTIGV, IATVREV, IPGIPKD, IVDTVSA, LFAAETL, LQGPPGT, NVAITRA, PEVKILN, PPGTGKS, QGPPGTG, RFNVAIT, RPQIGVV, RYPANSI, SKILGLP, TREAVGT, TRLQSL, TVDSSQG, VAITRAK, VCNAPGC, VDLFRNA, VNALPET, YPANSIV, AIFYLIT, AKKNNLP, DSDVETK, EKTKTLV, ELSRVLG, FDSEYCR, GDFLHFL, GLAAVNS, IALKGGK, IIVFLL, IKVTLVF, KGGKIVN, KKGAKLL, KKNLPL, LACEDLK, LAKNVSL, LSLQFKR, NSLKITE, PGTILRT, QPILLD, RFFYVLG, RRSFYVY, RSFYVYA, RYVLMGD, SAKSASV, SIHLYFD, TLATHGL, TPSFKKG, TSNSFDV, VDNSSLT, VTVKNGS, ALITLAT, DEDDSEP, EDDSEPV, EELKLL, EIDRLNE, ELKLL, GLTVLPP, HLLVAA, KCRSKNP, KVEAEVQ, LAFVFL, LAILTAL, LALITLA, LDKYFKN, LIRAAEI, LKLLLEQ, LLESELV, LLLVAAG, LLVAAGL, LPPLLTD, LVKQLSS, NASVNI, NSVLLFL, SSTASAL, SVLLFLA, SVTSSIV, TALRLCA, TGRLQSL, TQLSTDT, VEELKLL, VFLLVTL, VGVALLA, VNSVLLF, VTLADAG, AGEANF, ATALLT, DEDEEG, DIQLLKS, EDEEGD, EDIQLL, EEEQEE, EGKTFYV, ELTPVVQ, EVKPFIT, GPLKVG, IPKEEVK, IQLLKA, KEEVKPF, KLVSSFL, KTTVASL, LGIEFLK, LKGVAV, LKSAYEN, LKTLLS, LLAPLLS, LLSAGIF, LSGHNL, NDLNETL, NGNLHPD, NLKTLLS, PDEEEE, PEEEQEE, PEEHFIE, SAALQPE, SELLTPL, SKTTVAS, TFDNLK, TLQQL, TLVSDID, VSELLTP, VSVSSPD, YENFNQH, AACCHLA, AMQRKLE, ASAVVLL, AVVLLIL, DSEVVLK, DTSLSGF, DVVYCP, EKMVSLL, EVLKLK, FTPLIQ, GTTFTYA, GVVTTVM, IASEFSS, KELLQNG, LEGNFY, LFLPSL, LKELLQ, LKLLKS, LLPLTQ, LTSLVL, NGRTILG, NSGSDV, NYEPLTQ, PSLATVA, QARSEDK, QGLLPPK, SASIVAG, SGVTTV, SGVYQCA, SLKELLQ, SLLSVL, SLVLVQ, SVVLLSV, TDTTITV, TILSLL, TSLVLV, TSLSGFK, VAGGIVA, VLKLV, VSLLSVL, YNYEPLT
<i>Macaca mulatta</i>	4	APTLVPQ, ELTPVVQ, TLEILDI, YDTNVLE
<i>Mus musculus</i>	240	AALALLL, ALALLLL, ASSRSS, DAALALL, FTLKRKT, ITTVAAF, KDKKKK, KLGSLLV, LALLLLD, LVFLGII, RPQGLPN, RSSRSR, SRSRNS, SRSSRS, SSRSSR, TGAIKL, VGARKSA, VLQLPQG, DFTEERL, GSGVPV, HQKLLKS, ILTTRA, LLSLDLQD, NICQAVT, NLLDKR, PGSGVPV, QDALFAY, QEKDEDD, QKLLSI, RARTVAG, RLSFKEL, RQLLFV, TVLQAVG, VDAAKAY, YGCSCDQ, YKDYLAS, AELEGIQ,

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Supplementary Table S4 (Continued)

Organism	N°	Shared heptapeptides
		DNLLEIL, EIKDTEK, ESGLKTI, EVEKGV, FIKRSDA, GETLPTE, GVVGEFS, KDLLARA, KGKAKKG, KPVLDWL, LEILQKE, LPTEVLT, LVALEG, PACHNSE, PLVGPVP, PQLEQPY, SEARQHL, SGLKTI, TEEVVLK, TENLTKE, TLPTEVL, VEKGVLP, AALLADK, ADVEWKF, ANEYRLY, CTERLKL, DIPGIPK, EVKILNN, FNVAITR, GPPGTGK, HISTIGV, IATVREV, IVDTVSA, LFAAETL, NVAITRA, PEVKILN, PPGTGKS, QGPPGTG, RFNVAIT, RYPANSI, SKILGLP, TRLQSL, VDLFRNA, VKILNNL, VNLKQLP, YPANSIV, AKNLNES, ALITLAT, EAEVQID, EIDRLNE, ELKKLE, FVVLLV, GLTVLPP, HSSSSDN, INLIKN, LAILTAL, LALITLA, LFLAFVV, LIRAAEI, LKGCSC, LKKLEQ, LLLVAAG, LLVAAGL, LVKQLSS, NHTSPDV, NSVLLFL, RPLLESE, SSTASAL, SSVLNDI, SVLLFLA, TGRLQSL, VEELKKL, VGVALLA, VLLFLAF, VNSVLLF, CTEVPVA, DEVRQIA, DSFVIRG, EAVKTQF, ENGTITD, FIERYKL, FKNLREF, FLVLLPL, FVSDADS, GRLLIRE, GSVAIKI, IDLLDD, IQQLAL, IVYGDFFS, KVVKVTI, LIVNNAT, LLPLVSS, NCTEVPV, NPIQLSS, NRKRISN, PGTAVLR, QPGVAMP, QTLEILD, RKSNLKP, SFVIRGD, SSSGWTA, TLIGEAV, TLLALHR, TRFQTL, VTKENDS, VTLIGEA, AKKNNLP, ASGKVP, AYVNTFS, CLSGLDS, ESSAKSA, FDAYVNT, GGVTRDI, IALKGGK, IKVTLVF, KGGKIVN, KKNLPLF, LACEDLK, LAKNVSL, LKTLVAT, NSLKITE, PGTILRT, QPILLD, RFFVVLG, RRSFYVY, RSFYVYA, RVVTFD, SAKSASV, SLSEQLR, STFISAA, TKGSLPI, TLATHGL, TSNSFDV, VDNSSLT, VLEGSVA, VTRDIAS, VTKNGS, VVTFDS, AMQRKLE, AVVLLIL, DVVYCP, EKMVSLL, EVVLLKL, FNTLLFL, GPLSAQT, GTTFTYA, IASEFSS, IVTALRA, LFLPLS, LGVGGK, LKELLQN, LLPLTQY, LLPPKNS, LTSLLVL, NSGSDVL, QARSEDK, QGLLPPK, QLRVSS, SASIVAG, SGVVTTV, SLLSVLL, SVVLLSV, TAQEAYE, TDTTITV, VAGGIVA, VESSSKL, VLKLVK, VSFLAHI, VSLLSVL, YNYEPLT, AGEAANF, DEDEEEG, DIQLLKS, EDEEEGD, EEEQED, EGKTFYV, HGGGVAG, IKIQEGV, IPKEEVK, IQLLKA, KTTVASL, LEFGATS, LGIEFLK, LKGVAV, LKSAYEN, LKTLLSL, LLAPLLS, LLSLREV, LSGHNLA, MLAKALR, NGNLHPD, NLKTLLS, PEEEQEE, PEEHFIE, PLSAGI, SKTTVAS, SYSGQST, TESKPSV, TFDNLKT, TKKAGGT, VSELLTP, VSVSSPD, VVVNAAN, YENFNQH, YVEEAK
<i>Oryctolagus cuniculus</i>	18	AALTNNV, IVYGDFFS, EDIQLL, SAALQPE, FIKRSDA, KGKAKKG, KDFMSLS, VDNSSLT, EIDRLNE, LIFLWLL, LLLVAAG, EKMVSLL, SGAMDTT, VAGGIVA, EVKILNN, GPPGTGK, PEVKILN, VKILNNL
<i>Pan troglodytes</i>	12	APTLVPQ, FIKRSDA, LEGNFY, TSNSFDV, YGCSCDQ, EDEEEGD, LKTLLSL, RARSVAS, RRARSVA, ALITLAT, EELKKL, LALITLA
<i>Rattus norvegicus</i>	104	FKNLREF, FVSDADS, IVYGDFFS, KVVKVTI, LLPLVSS, PGTAVLR, SSVLHST, TLIGEAV, VSGTNGT, VTLIGEA, AALALL, ALALLL, DAALALL, KKDKKKK, KLGSLVV, LLLDRL, PPTPKK, RSSRSR, SRSSRS, SSRSSR, TGAIKL, VLQPLQ, ALDISAS, AVVLLIL, EKMVSLL, GPLSAQT, LGSALLE, LGVGGK, LLPLTQY, QARSEDK, QEAYEQA, SLATVAY, VAGGIVA, YNYEPLT, ALITLAT, EIDRLNE, LALITLA, LFLAFVV, LIRAAEI, LKGCSC, LKKLEQ, LLLVAAG, LSKSLTE, SSDNIAL, SSTASAL, VNSVLLF, ADVEWKF, ETLKATE, EYFNVC, GPPGTGK, HISTIGV, IVDTVSA, NVAITRA, PPGTGKS, RYPANSI, SYATHSD, VAITRAK, VDLFRNA, YPANSIV, ATCEFCG, ETVKGLD, EVEKGV, FIKRSDA, FSASTA, GAKLAL, KGKAKKG, KLKALNL, LEILQKE, PACHNSE, SEARQHL, TLPTEVL, VEKGVLP, DEDEEEG, DIQLLKS, EEEQED, EVKPFIT, ILPSIIS, IPKEEVK, IQLLKA, KTTVASL, LKSAYEN, LKTLLSL, LSGHNLA, NGNLHPD, NLKTLLS, PEEEQEE, PEEHFIE, YVEEAK, LVKQGGD, QEKDEDD, RARTVAG, STDVVYR, VDAAKAY, YGCSCDQ, YQHEETI, FCLEASF, IALKGGK, IKVTLVF, KGGKIVN, RFFVVLG, RRSFYVY, RSFYVYA, TSNSFDV, VDNSSLT
<i>Sus scrofa</i>	21	DFTEERL, GPPGTGK, IQDSLSS, EKMVSLL, TTSYREA, IALKGGK, VDNSSLT, KGKAKKG, VETVKGL, AALALL, SASAFF, SRSSRS, FVSDADS, TLIGEAV, VTLIGEA, EDEEEGD, EVKPFIT, KEEVKPF, KHGGGVA, LKHGGGV, NLKTLLS, PEEEQEE

Supplementary Table S5 Hemagglutinin from influenza A virus (H1N1) (NCBI:taxid 641809)

Organism	N°	Shared heptapeptides
<i>Bos taurus</i>	3	GAINTSL, VASSLVL, YDYPKYS
<i>Gorilla gorilla gorilla</i>	1	AKLNREE
<i>Homo sapiens</i>	16	AELLVLL, AKLNREE, EELREQL, ELLVLE, ELREQLS, GAINSL, GVAPLHL, GVKLEST, KVRDQEG, LREQLSS, LRLATGL, MKAILV, VKLESTR, VRDQEG, YDYPKYS, YVKSTKL
<i>Mus musculus</i>	17	AADLKST, AELLVLL, AKLNREE, EELREQL, EKNVTVT, ELLVLE, GAINSL, GVKLEST, LIWLK, LREQLSS, PSTSADQ, QLSSVSS, TVLEKNV, TYNAELL, VASSLVL, YDYPKYS, YVKSTKL
<i>Oryctolagus cuniculus</i>	1	AKLNREE
<i>Pan troglodytes</i>	1	DLKSTQN
<i>Rattus norvegicus</i>	6	AELLVLL, EELREQL, GAINSL, LREQLSS, VASSLVL, YDYPKYS
<i>Sus scrofa</i>	2	ASSLVL, YDYPKYS

Supplementary Table S6 Major capsid protein L1 from human papillomavirus type 16 (NCBI:taxid 333760)

Organism	N°	Shared heptapeptides
<i>Bos taurus</i>	5	ATPTTSS, KSEVPLD, LQPPPGG, TSSTSTT, TTSSTST
<i>Homo sapiens</i>	16	AAISTSE, AGTSRLL, AVGENVP, EKFSADL, GSGSTAN, KATPTTS, KGSGSTA, KSEVPLD, LQFIFQL, LQPPPGG, PGGTLED, PTPSGSM, PVPVSKV, QLFVTVV, TLQANKS, VPKVSGL
<i>Mus musculus</i>	12	AGTSRLL, ATPTTSS, EKFSADL, GLQPPPG, GSGSTAN, KGSGSTA, KSEVPLD, LPPVPVS, LQPPPGG, PTTSSTS, QLFVTVV, QRAQGHN
<i>Rattus norvegicus</i>	9	ATPTTSS, FTPSGS, GLQPPPG, GSGSTAN, KSEVPLD, LQPPPGG, SSTSTTA, STSTTAK, VAVNPGD

Supplementary Table S7 Protective antigen from *Bacillus anthracis* (NCBI:taxid 1392)

Organism	N°	Shared heptapeptides
<i>Bos taurus</i>	3	DNDGIPD, LPLYISN, PSENGDT
<i>Canis lupus familiaris</i>	1	RLLNESE
<i>Homo sapiens</i>	20	AKENQLS, DNDGIPD, ELENIPS, EVIQAEV, INKASNS, KLYWTDS, LELEKTK, LKEALKI, LPLYISN, LSIPSSE, NQLAELN, PLMALST, PLYISNP, QRENPT, RFHYDRN, RLLNESE, SSELENI, TSSTTGD, TSTNGIK, VLPTTSL
<i>Macaca mulatta</i>	1	RLLNESE
<i>Mus musculus</i>	19	DNDGIPD, EVIQAEV, KLYWTDS, KRSTSAG, LEKTKQL, LKEALKI, LSIPSSE, PLMALST, PSDPLET, PTEKGLD, RLLNESE, SLAGERT, SNSNSST, SSELENI, SSTGNLE, TARIIFN, TLKEALK, TSTNGIK, VGADESV
<i>Pan troglodytes</i>	1	RLLNESE
<i>Rattus norvegicus</i>	11	EVIQAEV, KLYWTDS, KRSTSAG, LEKTKQL, LSIPSSE, MLNISSL, PLMALST, PSKNLAP, PTEKGLD, SKNTSTS, SSELENI
<i>Sus scrofa</i>	3	ISKNTST, NSSTEGL, RLLNESE