

>sp|Q289M7|HEMA\_I00A1(strainA/New Zealand:South Canterbury/35/2000H1N1)  
MKVKLLVLLCTFTATYADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDSHNGKLCL  
LKGIAPLQLGNCSVAGWILGNPECELLISKESWSYIVETPNPENGTCYPGYFADYEELRE  
QLSSVSSFERFEIFPKESSWPNTVTGVSASCSSHNGKSSFYRNLLWLTGKNGLYPNLSKS  
YANNKEKEVLVLWGVHHPPNIGDQRALYHTENAYSVVSSHYSRRFTPEIAKRPKVRNQE  
GRINYYWTLEPGDTIIFEANGNLIAPRYAFALSRGFGSGIITSNAPMDECDAKCQTPQG  
AINSLPFQNVHPVTIGECPKYVRSALKRMVTGLRNIPSIQSRLFGAIAGFIEGGWTGM  
VDGWYGYHHHQNEQGSGYAADQKSTQNAINGITNKVNSVIEKMNTQFTAVGKEFNKLERRM  
ENLNKKVDDGFLDIWTYNAELLVLLENERTLDFHDSNVKNLYEKVSQLKNNAKEIGNGC  
FEFYHKCNNECMESVKNGTYDYPKYSEESKLNREKIDGVKLESMGVYQILAIYSTVASSL  
VLLVSLGAISFWMCNSQLQCRICI

>sp|A8C8J4|HEMA\_I07A0(strainA/USA:Texas/UR06-0195/2007H1N1)  
MKVKLLVLLCTFTATYADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDSHNGKLCL  
LKGIAPLQLGNCSVAGWILGNPECELLISKESWSYIVETPNPENGTCYPGYFADYEELRE  
QLSSVSSFERFEIFPKESSWPNTVTGVSASCSSHNGESESSFYRNLLWLTGKNGLYPNLSKS  
YANNKEKEVLVLWGVHHPPNIGDQRALYHTENAYSVVSSHYSRRFTPEIAKRPKVRDQE  
GRINYYWTLEPGDTIIFEANGNLIAPRFAFALSRGFGSGIITSNAPMDKCDAKCQTPQG  
AINSLPFQNVHPVTIGECPKYVRSTKLRMVTGLRNIPSIQSRLFGAIAGFIEGGWTGM  
VDGWYGYHHHQNEQGSGYAADQKSTQNAINGITNKVNSVIEKMNTQFTAVGKEFNKLERRM  
ENLNKKVDDGFLDIWTYNAELLVLLENERTLDFHDSNVKNLYEKVSQLKNNAKEIGNGC  
FEFYHKCNDEC MESVKNGTYDYPKYSEESKLNREKIDGVKLESMGVYQILAIYSTVASSL  
VLLVSLGAISFWMCNSQLQCRICI

>sp|Q9WFX3|HEMA\_I18A0(strainA/Brevig Mission/1/1918H1N1)  
MEARLLVLLCAFAATNADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLED SHNGKLCK  
LKGIAPLQLGKCNIAWGLLNPEDLLL TASSWSYIVETSNSENGTCYPGFDIDYEELRE  
QLSSVSSFEKFEIFPKTSSWPNHETTKGVTAA CSYAGASSFYRNLLWLT KKGSSYPKLSK  
SYVNNKGKEVLVLWGVHHPPGTGDQQSLYQNADAYVSVGSSKYNRRFTPEIAARP KVRDQ  
AGR MNYYWTLEPGDTITFEATGNLIAPWYAFALNRSGSGIITS DAPVHD CNTKQTPH  
GAINSLPFQNIHPVTIGECPKYVRSTKLRM ATGLRNIPSIQSRLFGAIAGFIEGGWTG  
MIDGWYGYHHHQNEQGSGYAADQKSTQNAIDGITNKVNSVIEKMNTQFTAVGKEFNNLERR  
IENLNKKVDDGFLDIWTYNAELLVLLENERTLDFHDSNVRNLYEKVSQLKNNAKEIGNG  
CFEFYHKCDDACMESVRNGTYDYPKYSEESKLNREEIDGVKLESMGVYQILAIYSTVASS  
LVLLVSLGAISFWMCNSQLQCRICI

>sp|B4URD6|HEMA\_I06A0(strainA/Russia:St.Petersburg/8/2006H1N1)  
MKVKLLVLLCTFTATYADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLED SHNGKLCL  
LKGIAPLQLGNCSVAGWILGNPECELLISKESWSYIVEKPNPENGTCYPGHFADYEELRE  
QLSSVSSFERFEIFPKESSWPNTVTGVSASCSSHNGKSSFYKNLLWLTGKNGLYPNLSKS  
YANNKEKEVLVLWGVHHPPNIGNQRALYHTENAYSVVSSHYSRKFTPEIAKRPKVRDQE  
GRINYYWTLEPGDTIIFEANGNLIAPRYAFALSRGFGSGIINSNAPMDECDAKCQTPQG  
AINSLPFQNVHPVTIGECPKYVRSALKRMVTGLRNIPSIQSRLFGAIAGFIEGGWTGM  
VDGWYGYHHHQNEQGSGYAADQKSTQNAINGITNKVNSVIEKMNTQFTAVGKEFNKLERRM  
ENLNKKVDDGFIDVWTYNAELLVLLENERTLDFHDSNVKNLYEKVSQLKNNAKEIGNGC  
FEFYHKCNDEC MESVKNGTYDYPKYSEESKLSREKIDGVKLESMGVYQILAIYSTVASSL  
VLLVSLGAISFWMCNSQLQCRICI

>sp|P03454|HEMA\_I33A0(strainA/Wilson-Smith/1933H1N1)  
MKA KLLVLLYAFVATDADTICIGYHANNSTDVTIF EKNVAVTHSVNLLED RHNGKLCK

LKGIAPLQLGKCNITGWLLGNPECDSLLPARSWSYIVETPENSENGACYPGDFIDYEELRE  
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YVNNKGKEVLVLWGVHHPSSDEQQSLYSNGNAYVSASSNYYNRRFTPEIAARPKVKDQH  
GRMNYYWTLLPGDTIIFEATGNLIAPWYAFALSRGFESGIITSNASMHECNTKCQTPQG  
SINSNLPFQNIHPVTIGECPKYVRSTKLRMVTGLRNIPSIQYRGLFGAIAGFIEGGWTGM  
IDGWYGYHHQNEQGSGYAADQKSTQNAINGITNKVNSVIEKMNTQFTAVGKEFNLEKRM  
ENLNKKVDDGFLDIWTYNAELLVLLENERTLDFHDLNVKNLYEKVSQLKNNAKEIGNGC  
FEFYHKCDNECMESVRNGTYDYPKYSEESKLNREKIDGVKLESMGVYQILAIYSTVASSL  
VLLVSLGAISFWMCNSNGSLQCRICI

>sp|A4GCL9|HEMA\_I35A3(strainA/USA:Phila/1935H1N1)

MKARLLVLLCALAAAADADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDSHNGKLCR  
LKGIPPLQLGKCNIAWGLLGNPECDSLLPARSWSYIVETPENSENGACYPGDFINYEELRE  
QLSSVSSFERFEIFPKESSWPKHNTTKGVTAAACSHAGKSSFYRNLLWLTKEKEDSYPLKLN  
SYVNKKGKEVLVLWGVHHPSSKEQQTLYQNEAYSVVSSNYYNRRFTPEIAERPKVRDQ  
TGRMNYYWTLLPGDTIIFEANGNLIAPWYAFALSRGFESGIITSNASMHECNTKCQTPQ  
GAINSSLPFQNIHPVTIGECPKYVRSACKLRMVTGLRNIPSIQSRGLFGAIAGFIEGGWTG  
MIDGWYGYHHQNEQGSGYAADQKSTQNAINGITNKVNSVIEKMNTQFTAVGKEFNLEKR  
MENLNKKVDDGFLDIWTYNAELLVLLENERTLDFHDSNVKNLYEKVSQLKNNAKEIGNGC  
CFEFYHKCDNECMESVRNGTYDYPKYSEESKLNREKIDGVKLESMGVYQILAIYSTVASS  
LVLLVSLGAISFWMCNSNGSLQCRICI

>sp|P03452|HEMA\_I34A1(strainA/PuertoRico/8/1934H1N1)

MKANLLVLLCALAAAADADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDSHNGKLCR  
LKGIAPLQLGKCNIAWGLLGNPECDPPLPVRSWSYIVETPENSENGICYPGDFIDYEELRE  
QLSSVSSFERFEIFPKESSWPNHNTNGVTAAACSHEGKSSFYRNLLWLTEKEGSYPKLNS  
YVNKKGKEVLVLWGIHHPPNSKEQQNLYQNEAYSVVTSNYYNRRFTPEIAERPKVRDQA  
GRMNYYWTLLKPGDTIIFEANGNLIAPMYAFALSRGFESGIITSNASMHECNTKCQTPLG  
AINSSLPYQNIHPVTIGECPKYVRSACKLRMVTGLRNIPSIQSRGLFGAIAGFIEGGWTGM  
IDGWYGYHHQNEQGSGYAADQKSTQNAINGITNKVNTVIEKMNIQFTAVGKEFNKLEKRM  
ENLNKKVDDGFLDIWTYNAELLVLLENERTLDFHDSNVKNLYEKVSQLKNNAKEIGNGC  
FEFYHKCDNECMESVRNGTYDYPKYSEESKLNREKIDGVKLESMGVYQILAIYSTVASSL  
VLLVSLGAISFWMCNSNGSLQCRICI

>sp|A4GCK8|HEMA\_I43A0(strainA/USA:Iowa/1943H1N1)

MKARLLVLLCALAATDADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDSHNGKLCR  
LKGIAPLQLGKCNIAGWILGNPECESLLSERWSYIVETPENSENGTCYPGDFIDYEELRE  
QLSSVSSFERFEIFSKESSWPKHTTGGVTAAACSHAGKSSFYRNLLWLTEKDGSYPNLNN  
YVNKKGKEVLVLWGVHHPSNIKDQQTLYQKENAYSVVSSNYYNRRFTPEIAERPKVRGQA  
GRINYYWTLLKPGDTIMFEANGNLIAPWYAFALSRGFESGIITSNASMHECDTKCQTPQG  
AINSSLPFQNIHPVTIGECPKYVRSACKLRMVTGLRNIPSIQSRGLFGAIAGFIEGGWTGM  
IDGWYGYHHQNEQGSGYAADQKSTQNAINGITNKVNSVIEKMNTQFTAVGKEFNLEKRM  
ENLNKKVDDGFLDIWTYNAELLVLLENERTLDFHDSNVKNLYEKVKNQLRNNAKEIGNGC  
FEFYHKCNNECMESVKNGTYDYPKYSEESKLNREKIDGVKLESMGVYQILAIYSTAASSL  
VLLVSLGAISFWMCNSNGSLQCRICI

>sp|A4U6V2|HEMA\_I45A0(strainA/USA:Huston/AA/1945H1N1)

MKARLLVLLCALAATDADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDSHNGKLCR  
LKGIAPLQLRKCNIAGWILGNPECESLLSERWSYIVETPENSENGTCYPGDFNYEELRE  
QLSSVSSFERFEIFPKESSWPKHNTTRGVTAACSHAGKSSFYRNLLWLTEKDGSYPNLNN

SYVNKKGKEVLVWGVHHPSNIKDQQTLYQKENAYSVVSSNNRRFTPEIAERPVRGQ  
AGRMNYYWTLLKPGDTIMFEANGNLIAPWYAFALSRGFSGIITSNASMHECDTKCQTPQ  
GAINSSLPFQNIHPVTIGECPKYVRSTKLRMVTGLRNIPSIQSRLFGAIAGFIEGGWTG  
MIDGWYGYHHQNEQGSGYAADQKSTQNAINGITNKVNSVIEKMNTQFTAVGKEFNNLEKR  
MENLNKKVDDGFLDIWTYNAELLILLENERTLDFHDSNVKNLYEKVKSQLRNNAKEING  
CFEFYHKCNNECMESVKNGTYDYPKYSEESKLNREKIDGVKLESMGVYQILAIYSTVASS  
LVLLVSLGAISFWMCSNGSLQCRCI

>sp|A4GCI6|HEMA\_I36A0(strainA/Henry/1936H1N1)

MKARLLVLLCALAATDADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDSHNGKLCL  
LKGIAPLQLGKCNIAWGWLGNPECDPLLPARSWSYIVETPENSENGICYPGAFIDYEELRE  
QLSSVSSFERFEIFPKESSWPNHNTNIGVTAACSHAGKSSFYRNLLWLTKKGGSYPKLN  
SYVNKKGKEVLVLWGIHPSNSKDQQTLYQNEAYSVVSSNYNRRTPEIAERPEVRDQ  
AGRMNYYWTLEPGDTIMFEANGNLVAPWYAFALSRGFSGSIITSNASMHECNTKCQTPQ  
GAINSSLPFQNIHPVTIGECPKYVRSAKLRMVTGLRNIPSIQSRLFGAIAGFIEGGWTG  
MIDGWGYHHQNEQGSGYAADQKSTQNAINGITNKVNSVIEKMNTQFTAVGKEFNNLEKR  
MENLNKKVDDGFLDIWTYNAELLVLLENERTLDFHDSNVKNLYEKVSQLKNNAKEIGNG  
CFEFYHKCDNECMESVRNGTYDYPKYSEESKLNREKIDGVKLESMGVYQILAIYSTVASS  
L.VI.I.VSI.GAISFWMCNSGSLQCRJCI

>sp|A4U7A6|HEMA I51A0(strainA/USA:Albany/12/1951H1N1)

MKARLLILLCALSATDADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDSHNGKLCR  
LKGIAPLQLGKCNIAWGILGNPECESLLSNRSWSYIAETPNSENGTCYPGDFADYEELRE  
QLSSVSSFERFEIFPKERSWPKNITRGVTAACSHAKSSFYKNLLWLTEANGSYPNLSK  
SYVNNKEKEVLVLWGVHHPSNIEDQRTLYRKENAYVSVSSNYNRRFTPEIAERPKVRGQ  
AGRMNYYWTLLEPGDKIIFEANGNLIAPWYAFALSRGLGSGIITSNASMDECDTKCQTPQ  
GAINSSLPFQNIPVTIGECPKYVRSTKLRMVTGLRNIPSIQSRLFGAIAGFIEGGWTG  
MVDGWYGYHHQNEQGSGYAADQKSTQNAINGITNKVNSVIEKMNTQFTAVGKEFNKLEKR  
MENLNKKVDDGFLDIWTYNAELLVLLENERTLDFHDSNVKNLYEKVKNQLRNNAKEIGNG  
CFEFYHKCDNECMESVKNGTYDYPKYSEESKLNREKIDGVKLESMGVYQILAIYSTVASS  
LVI LVSIGAISEWMCSNCISLOCRICI

>sp|Q9WCD9|HEMA\_I30A0(strain A/Swine/Iowa/15/1930H1N1)

MKAIIVLCAFAATNADTLCIGYHANNSTDVTLEKNVTVTHSVNLLEDSHNGKLCR  
LGGIAPLQLGKCNIAAGXXLGNPECDLLLTVSSWSYIVETSNSDNGTCYPGDFIDYEELRE  
QLSSVSSFEKFEIFPKTSSWPNHETTRGVTAACPYAGASSFYRNLLWVKKENSYPKLSK  
SYVNNKGKEVLVLWGVHHPPSTDQQLYQNADAYVSGSSKYDRRTPEIAARPKVRGQ  
AGRMMYYWTLLEPGDTITFEATGNLVAPRYAFALNRGESGIIITSADPVHDCDTKCQTPH  
GAINSSLPFQNIHPVTIGECPKYVKSTKLRLMTGLRNIPSIQSRLFGAIAGFIEGGWTG  
LIDGWYGYHHQNGQGSGYAADQKSTQNAIDGITNKVNSVIEKMNTQFTVVGKEFNNLERR  
IKNLNKKVDDGFLDVWTYNAEMLVLLENERTLDFHDSNVKNLYEKARSQRNNAKEIGNG  
CFEFYHKCDDACMESVRNGTYDYPKYSEESKLNREEIDGVKLESMMVYQILAIYSTVASS  
LVLLVSLGAISFWMCSNGSLOCRICI

>sp|Q0HD60|HEMA\_I40A0(strainA/Hickox/1940H1N1)

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KER  
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PQ

GAINSLPFQNIHPFTIGECPKYVRSTKLRMVTGLRNIPSIQSRLGAIAGFIEGGWAG  
MIDGWYGYHHQNEQGSGYAADQKSTQNAINGITNKVNSVIEKMNTQFTAVGKEFNKLEKR  
MENLNKKVDDGFLDIWTYNAELLVLLENERTLDFHDSNVKNLYEKVKNQLRNNAKEIGNG  
CFEFYHKCNNECMESVKNGTYDYPKYSEESKLNREKIDGVKLESMGVYQILAIYSTVASS  
LVLLVSLGAISFWMCNSNGSLQCRICI

>sp|P18876|HEMA\_I54A0(strainA/Leningrad/1/1954H1N1)  
MKAKLLVLLCALSATDADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDSHNGKLKR  
LKGIAPLQLGKCSIAGWILGNPECESLVSKKWSYIAETPNSENGTCYPGYFADYEELRE  
QLSSVSSFERFEIFPKERSWPKHNVTRGVTASCCHKGSFYRNLLWLTEKNGSYPNLSK  
SYVNNKEKEVLVLWGVHHPSNIEDQKTIYRKENAYSVVSSNNRRFTPEIAERPKVRGQ  
AGRINYYWTLEPGDTIIFEANGNLIAPWHAFALNRGFGSGIITSNASMDECDTKCQTPQ  
GAINSLPFQNIHPVTIGECPKYVRSTKLRMVTGLRNIPSIQSRLGAIAGFIEGGWTG  
MIDGWYGYHHQNEQGSGYAADQKSTQNAINGITNKVNSVIEKMNTQFTAVGKEFDELEKR  
MENLNKKVDDGFLDIWTYNAELLVLLENERTLDFHDSNVKNLYEKVKSQLNNAKEIGNG  
CFEFYHKCNNECMESVKNGTYDYPKYSEESKLNREKIDGVKLESMGVYQILAIYSTVASS  
LVLLVSLGAISFWMCNSNGSLQCRICI

>sp|A4K143|HEMA\_I54A2(strainA/Malaysia:Malaya/302/1954H1N1)  
MKARLLILLCALSATDADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDSHNGKLKR  
LKGIAPLQLGKCNIAGWILGNPECESLLSRNSWSYIAETPNSENGICYPGDFADYEELRE  
QLSSVSSFERFEIFPKESSWPKHНИТРГВАСШАКССФЫКНЛЛWLTEАНГЛЫПСЛК  
SYVNDREKEVLVLWGVHHPSNIEDQRTLYRKENAYSVVSSNNRRFTPEIAERPKVRGQ  
PGRMNYYWTLEPGDKIIFEANGNLIAPWYAFALSRGPGSGIITSNASMDECDTKCQTPQ  
GAINSLPFQNIHPVTIGECPKYVRSTKLRMVTGLRNIPSIQSRLGAIAGFIEGGWTG  
MVDGWYGYHHQNEQGSGYAADQKSTQNAINGITNKVNSVIEKMNTQFTAVGKEFNKLEKR  
MENLNKKVDDGFLDIWTYNAELLVLLENERTLDFHDSNVKNLYEKVKNQLRNNAKEIGNG  
CFEFYHKCDNECMESVKNGTYDYPKYSEESKLNRAKIDGVKLESMGVYQILAIYSTVASS  
LVLLVSLGAISFWMCNSNGSLQCRICI

>sp|Q9WCD8|HEMA\_I61A1(strainA/Swine/Wisconsin/1/1961H1N1)  
MKAILLVLLCAFAATNADTLCIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDRHNGKLCK  
LGGIAPLHLGKCNIAGWLLGNPECELLTVSSWSYIVETSNSDNGTCYPGDFINYEEELRE  
QLSSVSSFERFEIFPKTSSWPNHETNKGVTACPYAGANSFYRNLIWLVKKESSYPKLSK  
SYVNNKGKEVLVLWGIHHPPSTDQQSLYQNADAYVFGSSKYNRKFKPEIAARPKVRGQ  
AGRMNYYWTLEPGDTITFEATGNLVPRYAFAMNRGSGSGIISDAPVHDCNTKCQTPK  
GAINTSLPFQNIHPVTIGECPKYVKSTKLRMATGLRNIPSIQSRLGAIAGFIEGGWTG  
MIDGWYGYHHQNGQGSGYAADQKSTQNAIDGITNKVNSVIEKMNMQFTAVGKEFNLEKR  
IENLNKKVDDGFLDVWTYNAELLVLLENERTLDFHDSNVKNLYEKVRSQLRNNAKEIGNG  
CFEFYHKCDDTCMESVKNGTYDYPKYSEESKLNREEIDGVKLESTRVYQILAIYSTVASS  
LVLLVSLGAISFWMCNSNGSLQCRICI

>sp|A8C8W3|HEMA\_I67A2(strainA/Swine/Wisconsin/1/1967H1N1)  
MKAILLVLLCTFAATNADTLCIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDRHNGKLCK  
LGGIAPLHLGKCNIAGWILGNPECELLFTVSSWSYIVETSNSDNGTCYPGDFINYEEELRE  
QLSSVSSFERFEIFPKTSSWPNHETNKGVTACPYAGANSFYRNLIWLVKGSSYPKLSE  
SYVNNKGKEVLVLWGIHHPPSTDQQSLYQNADAYVFGSSKYNRKFKPEIAARPKVRGQ  
AGRMNYYWTLEPGDTITFEATGNLVPRYAFAMNRGSGSGIISDAPVHDCNTKCQTPK  
GAINTSLPFQNIHPVTIGECPKYVKSTKLRMATGLRNIPSIQSRLGAIAGFIEGGWTG  
MIDGWYGYHHQNGQGSGYAADQKSTQNAIDGITNKVNSVIEKMNMQFTAVGKEFNLEKR

IENLNKKVDDGFLDVWTYNAELLVLLENERTLDFHDSNVKNLYEKVRSQLRNNAKEIGNG  
CFEFYHKCDDTCMESVKNGTYDYPKYSEESKLNREEIDGVKLESTRVYQILAIYSTVASS  
LVLLVSLGAISFWMCNSNGSLQCRICI

>sp|P26562|HEMA\_I76A4(strain A/Duck/Alberta/35/1976H1N1)  
MEAKLFVLFCFTVLKADTICVGYHANNSTDVTDTVLEKNVTVTHSVNLLEDSHNGKLCS  
LNGIAPLQLGKCNVAGWLLGNPECDLLLANSWSYIETSNSENGTCYPGEFIDYEELRE  
QLSSISSFEKFEIFPKASSWPNHETTKGVTAAACSYSGASSFYRNLLWITKGTSPKLSK  
SYTNNGKEVLVLWGVHHPPSSEQQSLYQNADAYVGSSSKYNRRFAPEIAARPEVRGQ  
AGRMMNYYTLLDQGDTITFEATGNLIAPWYAFALNKGSDSGIITSAPVHNCDTRCQTPH  
GALNSSLPFQNVHPITIGECPKYVKSTKLRMATGLRNVPSIQSRGLFGAIAGFIEGGWTG  
MIDGWGYHHQNEQGSGYAADQKSTQNAIDGITSKVNSVIEKMNTQFTAVGKEFNLLERR  
IENLNKKVDDGFLDVWTYNAELLVLLENERTLDFHDSNVRNLYEKVSQLRNNAKEIGNG  
CFEFYHKCDDTCMESVKNGTYDYPKYSEESKLNREEIDGVKLESMGVYQILAIYSTVASS  
LVLLVSLGAISFWMCNSNGSLQCRICI

>sp|P03455|HEMA\_I76AI(strain A/Swine/New Jersey/11/1976H1N1)  
MKAILLVLCTFAATNADTLICIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDRHNGKLCK  
LGGIAPLHLGKCNIAGRLLGNPECELLTVSSWSYIVETSKSDNGTCYPGDFINYEEELRE  
QLSSVSSFERFEIFPKTSSWPNHETNRGVTAACPYAGANSFYRNLIWLVKKENSYPKLSK  
SYVNNKGKEVLVLWGIHHPPSTDQQSLYQNADAYVGSSSKYNRKFKPEIAARPVVRGQ  
AGRMSYYWTLIEPGDTITFEATGNLVVPRYAFAMNRGSGSGIIWDAPVHDCNTKCQTPK  
GAINTSLPFQNIHPVTIGECPKYVKSTKLRMATGLRNVPSIQSRGLFGAIAGFIEGGWTG  
MIDGWGYHHQNEQGSGYAADQRSTQNAIDGITNKVNSVIEKMNTQFTAVGKEFNHLEKR  
IENLNKKVDDGFLDIWWTYNAELLVLLENERTLDFHDSNVKNLYEKVSQLRNNAKEIGNG  
CFEFYHKCDDTCMESVKNGTYDYPKYSEESKLNREEIDGVKLESTRIYQILAIYSTVASS  
LVLLVSLGAISFWMCNSNGSLQCRICI

>sp|P03453|HEMA\_I77AB(strainA/USSR/90/1977H1N1)  
MKAKLLVLLCALSATDADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDSHNGKLCR  
LKGIAPLQLGKCNIAGWILGNPECESLFSKKSWSYIAETPNSENGTCYPGYFADYEELRE  
QLSSVSSFERFEIFPKERSWPKHNVTRGVTASCASHKGKSSFYRNLLWLTEKNGSYPNLSK  
SYVNNKEKEVLVLWGVHHPSNIEDQKTIYRKENAYSVVSSYNRRFTPEIAERPKVRGQ  
AGRINYYWTLLEPGDTIIFEANGNLIAPWHAFALNRGFGSGIITSNASMDECDTKCQTPQ  
GAINSSLPFQNIHPVTIGECPKYVRSTKLRMTGLRNIPSIQSRLFGAIAGFIEGGWTG  
MIDGWGYHHQNEQGSGYAADQKSTQNAINGITNKVNSVIEKMNTQFTAVGKEFNKLEKR  
MENLNKKVDDGFLDIWWTYNAELLVLLENERTLDFHDSNVKNLYEKVSQLKNNAKEIGNG  
CFEFYHKCNNECMESVKNGTYDYPKYSEESKLNREKIDGVKLESMGVYQILAIYSTVASS  
LVLLVSLGAISFWMCNSNGSLQCRICI

>sp|A4GBX7|HEMA\_I77AA(strainA/Brazil/11/1978H1N1)  
MKAKLLVLLCALSATDADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDSHNGKLCR  
LKGIAPLQLGKCSIAGWILGNPECESLFSKKSWSYIAETPNSENGTCYPGYFADYEELRE  
QLSSVSSFERFEIFPKERSWPKHNTRGVTASCASHKGKSSFYRNLLWLTEKNGSYPNLSK  
SYVNNKEKEVLVLWGVHHPSNIEDQKTIYRKENAYSVVSSYNRRFTPEIAKRPVVRGQ  
EGRINYYWTLLEPGDTIIFEANGNLIAPWYAFALSRGFGSGIITSNASMDECDTKCQTPQ  
GAINSSLPFQNVHPVTIGECPKYVRSTKLRMTGLRNIPSIQSRLFGAIAGFIEGGWTG  
MIDGWGYHHQNEQGSGYAADQKSTQNAINGITNKVNSVIEKMNTQFTAVGKEFNKLEKR  
MENLNKKVDDGFLDIWWTYNAELLVLLENERTLDFHDSNVKNLYEKVSQLKNNAKEIGNG  
CFEFYHKCNNECMESVKNGTYDYPKYSEESKLNREKIDGVKLESMGVYQILAIYSTVASS

LVLLVSLGAISFWMCNSNGSLQCRICI

>sp|Q9WCE3|HEMA\_I80A1(strainA/Duck/Australia/749/1980H1N1)  
MEAKLLVLFCTFAALKADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLENSHNGKLCS  
LNGIAPLQLGKCNVAGWLLGNEC DLLLTANSWSYIETSNSENGTCYPGEFIDYEELRE  
QLSSVSSFEKFEIFPKASSWPNHETTKGVTAA CSYLGASSFYRNLLWMTKKGTSPKLSK  
SYTNNGKEVLVLWGVHHPTTSEQQTLYQNVDAYVGSSKYNRRFTPEIAARPKVRGQ  
AGKMNYYWTLLDQGDTITFEATGNLIAPWYAFALNKGSDSGIITSADPVHNC DTKCQTPY  
GALNSSLPFQNVHPITIGECPKYVKSTKLRMATGLRN VPSIQSRLFGAIAGFIEGGWTG  
MIDGWYGYHHQNEQGSGYAADQKSTQSAIDGITNKVNSVIEKMNTQFTAVGKEFNLLERR  
IENLNKKVDDGFLDVWTYNAELLVLENERTLDFHD SNVRNLYEKVSQLRNNAKEIGNG  
CFEFYHKCDDEC MESVKNGTYDYPKYSEESKLNREEIDGVKLESMGVYQILAIYSTVASS  
LVLLVSLGAISFWMCNSNGSLQCRICI

>sp|P18875|HEMA\_I79A4(strainA/Kiev/59/1979H1N1)  
MKAKLLVLLCALSATDADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLED SHNGKLCR  
LKGIAPLQLGKCSIAGWILGNPECESLFSKKWSYIAETPNSENGTCYPGYFADYEELRE  
QLSSVSSFERFEIFPKERSWP KHNTRGV TASC SHKGKSSFYRNLLWLTEKNGSYPNLSK  
SYVNNKEKEVLVLWGVHHPSNIEDQKTIYRKENAYVSVSSN YNRRFTPEIAKR PKVRGQ  
EGRINYYWTLLEPGDTIIFEANGNLIAPWYAFALSRGF GSGIITSNASMDEC DTKCQTPQ  
GAINSSLPFQNVHPITIGECPKYVRSTKLRMVTGLRNIPSIQSRLFGAIAGFIEGGWTG  
MIDGWYGYHHQNEQGSGYAADQKSTQNAINGITNKVNSVIEKMNTQFTAVGKEFNKLEKR  
MENLNKKVDDGFLDIWTYNAELLVLENERTLDFHD SNVRNLYEKVSQLRNNAKEIGNG  
CFEFYHKCNNECMESVKNGTYDYPKYSEESKLNREKIDGVKLESMGVYQILAIYSTVASS  
LCLLVSLGAISFWMCNSNGSLQCRICI

>sp|Q9WCE1|HEMA\_I81A3(strainA/Turkey/Minnesota/1661/1981H1N1)  
MEAKLFVLFCTFTVLKADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLED SHNGKLCS  
LNGIAPLQLGKCNVAGWLLGNPEC DLLTANSWSYIETSNSENGTCYPGEFIDYEELRE  
QLSSVSSFEKFEIFPKASSWPNHETTKGVTAA CSYSGASSFYRNLLWITKKGTSPKLSK  
SYTNNGKEVLVLWGVHHPTTSEQQSLYQNADAYVGSSKYNRRFTPEIAARPKVRGQ  
AGR MNYYWTLLDQGDTITFEATGNLIAPWYAFALNKGSDSGIITSADPVHNC DTRCQTPH  
GALNSSLPFQNVHPITIGECPKYVKSTKLRMATGLRN VPSIQSRLFGAIAGFIEGGWTG  
MIDGWYGYHHQNEQGSGYAADQKSTQNAIDGITNKVNSVIEKMNTQFTAVGKEFNLLERR  
IEKLNKKVDDGFLDVWTYNAELLVLENERTLDFHD SNVRNLYEKVSQLRNNAKELGNG  
CFEFYHKCDDEC MESVKNGTYDYPKYSEESKLNREEIDGVKLESMGVYQILAIYSTVASS  
LVLLVSLGAISFWMCNSNGSLQCRICI

>sp|A4GCJ7|HEMA\_I80AA(strainA/India/6263/1980H1N1)  
MKAKLLVLLCALSATDADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLED SHNGKLCR  
LKGIAPLQLGKCSIAGWILGNPECESLVS KKSWSYIAETPNSENGTCYPGYFADYEELRE  
QLSSVSSFERFEIFPKESSWP KHNTRGV TASC SHKGKSSFYRNLLWLTEKNGSYPNLSK  
SYVNNKEKEVLVLWGVHHPSNIENQKTIYRKENAYVSVSSHYNRRFTPEIAKR PKVRDQ  
EGRINYYWTLLEPGDTIIFEANGNLIAPWYAFALSRGF GSGIITSNASIDECAKCQTPQ  
GAINSSLPFQNVHPITIGECPKYVRSTKLRMVTGLRNIPSIQSRLFGAIAGFIEGGWTG  
MIDGWYGYHHQNEQGSGYAADQKSTQNAINGITNKVNSVIEKMNTQFTAVGKEFNKLEKR  
MENLNKKVDDGFLDIWTYNAELLVLENERTLDFHD SNVRNLYEKVSQLRNNAKEIGNG  
CFEFYHKCNNECMESVKNGTYDYPKYSEESKLNREKIDGVKLESMGVYQILAIYSTVASS  
LVLLVSLGAISFWMCNSNGSLQCRICI

>sp|A4GCH5|HEMA\_I83A1(strainA/Chile/1/1983H1N1)

MKAKLLVLLCALSATDADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDNHNGKLCK  
LKGIAPLQLGKCSIAGWILGNPECESLFSKKWSYIAETPENSENTCYPGYFADYEELRE  
QLSSVSSFERFEIFPKESSWPKHNVTKGVTAAACSHKGKSSFYRNLLWLTEKNGSYPNLSK  
SYVNNKEKEVLVLWGVHHPSNIEDQKTIYRKENAYSVVSSHYNRRFTPEIAKRPKVRNQ  
EGRINYYWTLEPGDTIIFEANGNLIAPWYAFALSRGFGSGIITSNASMDECDAKCQTPQ  
GAINSLPFQNVHPVTIGECPKYVRSTKLRMVTGLRNIPSIQSRLFGAIAGFIEGGWTG  
MIDGWGYHHHQNEQGSGYAADQKSTQNAINGITNKVNSIIEKMNTQFTAVGKEFNKLEKR  
MENLNKKVDDGFLDIWTYNAELLVLENERTLDFHDSNVKNLYEKVKSQLKNNAKEIGNG  
CFEFYHKCNNECMESVKNGTYDYPKYSEESKLNREKIDGVKLESMGVYQILAIYSTVASS  
LVLLVSLGAISFWMCNSNGSLQCRICI

>sp|P26142|HEMA\_I82A2(strainA/Camel/Mongolia/1982H1N1)  
CIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDHNGKCLRGIAPLQLGKCSIAGWILG  
NPECESLVSKKWSYIAETPENSENTCYPGYFADYEELREQLSSVSSFERFEIFPKERSW  
PK

>sp|Q9WCE8|HEMA\_I85A4(strainA/Swine/Netherlands/12/1985H1N1)  
MEAKLFVLFCRAFTLEADTICVGYHANNSTDVTILEKNVTVTHSVNLLENSHNGKLCS  
LNGVAPLQLGKCNVAGWILGNPECDLLLTAWSYIETSDSENGTCYPGEFIDYEELRE  
QLSSVSSFERFEIFPKANSWPNHETTKGITAACSYSGTLSFYRNLLWIVKRGNSYPKLSK  
SYTNNGKEVLIWGVHHPPPTSDQQSLYQNADAYVVGSSKYNRRFTPEIAARPKVKGQ  
AGRMMNYWTLDDQGDTITFEATGNLIAPWYAFALNKSGSGIITSDETPVHNCDTKCQTPH  
GALNSSLFQNVHPITIGECPKYVKSTKLRMATGLRNVPSIQSRLFGAIAGFIEGGWTG  
MIDGWGYHHHQNEQGSGYAADQKSTQIAIDGISNKVNSVIEKMNTQFTAVGKEFDLEKR  
IENLNKKVDDGFLDVWTYNAELLVLENERTLDFHDFNVRNLYEKVKSQRLNNAKEIGNG  
CFEFYHKCDDEC MESVKNGTYNPKYSEESKLNREEIDGVKLESMEVYQILAIYSTVASS  
LVLLVSLGAISFWMCNSNGSLQCRICI

>sp|P26140|HEMA\_I88A6(strainA/Swine/Indiana/1726/1988H1N1)  
MKAILLVLLYTFTAANADTLICIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDRHNGKLCK  
LRGVAPLHLGKCNIAWGULLNPECELLFTASSWSYIVETSNSDNGTCYPGDFINYEELRE  
QLSSVSSFERFEIFPKASSWPNHETNRGVTAAACPYAGANSFYRNLIWLVKKGNSYPKLSK  
SYVNNKEKEVLVLWGIHHPPSTDQQSLYQNADAYVVGSSKYNKKFKPEIATRPKVRGQ  
AGRMMNYWTLVEPGDTITFEATGNLVVPRYAFAMKRGSGSGIIISDTPVHDCNTTCQTPK  
GAINTSLPFQNIHPVTIGECPKYVKSTKLRMATGLRNIPSIQSRLFGAIAGFIEGGWTG  
MIDGWGYHHHQNEQGSGYAADRKSTQNAIDGITNKVNSVIEKMNTQFTAVGKEFHLEKR  
IENLNKKVDDGFLDVWTYNAELLVLENERTLDYHDSNVKNLYEKVRSQ LKNNAKEIGNG  
CFEFYHKCDDTCMESVKNGTYDYPNYSEESKLNREEIDGVKLESTRIYQILAIYSTVASS  
LVLSVSLGAISFWMCNSNGSLQCRICI

>sp|P12590|HEMA\_I86A0(strainA/Taiwan/1/1986H1N1)

MKAKLLVLLCAFTATDADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDHNGKLCK  
LKGIAPLQLGNCSIAGWILGNPECESLFSKKWSYIAETPENSENTCYPGYFADYEELRE  
QLSSVSSFERFEIFPKESSWPNHTVTKGVTAAACSHKGKSSFYRNLLWLTEKNGSYPNLSK  
SYVNNKEKEVLVLWGVHHPSNIGDQRAYHTENAYSVVSSHYNRRFTPEIAKRPKVRGQ  
EGRINYYWTLEPEDTIIFEANGNLIAPWYAFALSRGFGSGIITSNASMDECDAKCQTPQ  
GAINSLPFQNVHPVTIGECPKYVRSTKLRMVTGLRNIPSIQS

>sp|A3DRP0|HEMA\_I96A2(strainA/USA:Memphis/10/1996H1N1)

MKAKLLVLLCAFTATYADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDHNGKLCK  
LKGTAPLQLGNCSVAGWILGNPECESLFSKESWSYIAETPNPENGTCYPGYFADYEELRE

QLSSVSSFERFEIFPKESSWPNHTVKVTASCSHNGKSSFYKNLLWLTEKNGLYPNLSK  
SYVNNKEKEVLVWGVHHPSNIGDQRAIYHTENAYSVVSSHYSRRFTPEIAKRPKVRDQ  
EGRINYYWTLLEPGDTIIFEANGNLIAPWYAFALSRGFGSGIITSNASMGECDAKCQTPQ  
GAINSLPFQNVHPVTIGECPKYVRSTKLRMVTGLRNIPSIQSRLGAIAGFIEGGWTG  
MIDGWYGYHHQNEQGSGYAADKKSTQNAIDGITNKVNSVIEKMNTQFTAVGKEFNKLERR  
MENLNKKVDDGFLDIWTYNAELLVLLENERTLDFHDSNVKNLYEKVKNQLKNNAKEIGNG  
CFEFYHKCNNECMESVKNGTYDYPKYSEESKLKREKIDGVKLESMGVYQILAIYSTVASS  
LVLLVSLGAISFWMCNSNGSLQCRICI  
>sp|Q07FI5|HEMA\_I96A3(strainA/China:Nanchang/11/1996H1N1)  
MKAKLLVLLCTFTATYADTICIGYHANNSTDVTDTVLEKNVTVTHSVNLLEDSHNGKLCL  
LKGIAPLQLGNCSVAGWILGNPECESLISKESWSYIVETPNPENGTCYPGYFADYEELRE  
QLSSVSSFERFEIFPKESSWPNHTVTGVSASCASHNGKSSFYRNLLWLTEKNGLYPNLSKS  
YVNNKEKEVLVWGVHHPSNIGVQRAIYHTENAYSVVSSHYSRRFTPEIAKRPKVRDQE  
GRINYYWTLLEPGDTIIFEANGNLIAPWYAFALSRGFESGIITSNAPMNECDAKCQTPQG  
AINSLPFQNVHPVTIGECPKYVRSACKRMVTGLRNIPSIQSRLGAIAGFIEGGWTGM  
IDGWYGYHHQNEQGSGYAADQKSTQNAINGITNKVNSVIEKMNTQFTAVGKEFNKLERRM  
ENLNKKVDDGFLDIWTYNAELLVLLENERTLDFHDSNVKNLYEKVKSQLKNNAKEIGNGC  
FEFYHKCNNECMESVKNGTYDYPKYSEESKLNREKIDGVKLESMGVYQILAIYSTVASSL  
VLLVSLGAISFWMCNSNGSLQCRICI