```
ANZO3807.1 hemagglutinin Influenza A virus (A/Hunan/44557/2015(H9N2))
                                                                        METVSLITILLVATVSNADKICIGYQSTNSTETVDTLTENNVPVTHAKELLHTEH
                                                                                                                                       54
AND61355.1 hemagglutinin Influenza A virus (A/Ankara/02/2015(H1N1))
                                                                         <u>MKATLVVLLYTFTTANADTLCIGYHAN</u>NSTDTVDT<u>VLEK</u>NVTVTH<u>SVN</u>LL<u>EDK</u>H
AND61360.1 hemagglutinin Influenza A virus (A/Ankara/08/2015(H1N1))
                                                                         {	t MKAILVVLLYTFTTANADTLCIGYHANNSTDTVDTVLEKNVTVTHSVNLLEDKH
                                                                                                                                       54
ANC28532.1 hemagglutinin Influenza A virus (A/India/DRDE GWL989/2015(H1N1))
                                                                         MKAILVVLLYTFTTANADTLCIGYHANNSTDTVDTVLEKNVTVTHSVNLLEDKH
                                                                                                                                       54
AMM43282.1 hemagglutinin Influenza A virus (A/India/Kol-4628/2015(H1N1))
                                                                                                                                       54
                                                                         MKAILVVLLYTFTTANADTLCIGYHANNSTDTVDTVLEKNVTVTHSVNLLEDKH
                                                                                                                                       54
A0054236.1 hemagglutinin Influenza A virus (A/India/Kol-4992/2015(H1N1))
                                                                         MKAILVVLLYTFTTANADTLCIGYHANNSTDTVDTVLEKNVTVTHSVNLLEDKH
A0054237.1 hemagglutinin Influenza A virus (A/India/Kol-5018/2015(H1N1))
                                                                                                                                       54
                                                                         MKAILVVLLYTFTTANADTLCIGYHANNSTDTVDTVLEKNVTVTHSVNLLEDKH
A0054238.1 hemagglutinin Influenza A virus (A/India/Kol-5025/2015(H1N1))
                                                                         MKAILVVLLYTFTTANADTLCIGYHANNSTDTVDTVLEKNVTVTHSVNLLEDKH
                                                                                                                                       54
A0054239.1 hemagglutinin Influenza A virus (A/India/Kol-5065/2015(H1N1))
                                                                         MKAILVVLLYTFTTANADTLCIGYHANNSTDTVDTVLEKNVTVTHSVNLLEDKH
consensus
                                                                         logo
ANZO3807.1 hemagglutinin Influenza A virus (A/Hunan/44557/2015(H9N2))
                                                                                                                                      110
                                                                        NGKLCKLRGVAPLHLGKCNIAGWILGNPECESLSTASSWSYIVETSNSDNGTCYP
                                                                                                                                      109
AND61355.1 hemagglutinin Influenza A virus
                                       (A/Ankara/02/2015(H1N1))
                                       (A/Ankara/08/2015(H1N1))
                                                                        NGKLCKLRGVAPLHLGKCNIAGWILGNPECESLSTASSWSYIVETSNSDNGTCYP
                                                                                                                                      109
AND61360.1 hemagglutinin Influenza A virus
                                                                        NGKLCKLRGVAPLHLGKCNIAGWILGNPECESLSTASSWSYIVETSNSDNGTCYP
                                                                                                                                      109
ANC28532.1 hemagglutinin Influenza A virus
                                       (A/India/DRDE GWL989/2015(H1N1))
AMM43282.1 hemagglutinin Influenza A virus
                                       (A/India/Kol-4628/2015(H1N1))
                                                                        NGKLCKLRGVAPLHLGKCNIAGWILGNPECESLSTASSWSYIVETSNSDNGTCYP
                                                                                                                                      109
                                       (A/India/Kol-4992/2015(H1N1))
A0054236.1 hemagglutinin Influenza A virus
                                                                        NGKLCKLRGVAPLHLGKCNIAGWILGNPECESLSTASSWSYIVETSNSDNGTCYP
                                                                                                                                      109
A0054237.1 hemagglutinin Influenza A virus (A/India/Kol-5018/2015(H1N1))
                                                                        NGKLCKLRGVAPLHLGKCNIAGWILGNPECESLSTASSWSYIVETSNSDNGTCYP
                                                                                                                                      109
A0054238.1 hemagglutinin Influenza A virus (A/India/Kol-5025/2015(H1N1))
                                                                        NGKLCKLRGVAPLHLGKCNIAGWILGNPECESLSTASSWSYIVETSNSDNGTCYP
                                                                                                                                      109
                                                                        NGKLCKLRGVAPLHLGKCNIAGWILGNPECESLSTASSWSYIVETSNSDNGTCYP
                                                                                                                                      109
A0054239.1 hemagglutinin Influenza A virus (A/India/Kol-5065/2015(H1N1))
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                                                                        !!*!!******!!*!**!*!!!!*!*******
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ANZO3807.1 hemagglutinin Influenza A virus (A/Hunan/44557/2015(H9N2))
                                                                        GNVENLEELRSLFSSARSYORIQTFPDTI.WNV..SYDGTSTA....CSGSF
AND61355.1 hemagglutinin Influenza A virus
                                       (A/Ankara/02/2015(H1N1))
                                                                                                                                      164
AND61360.1 hemagglutinin Influenza A virus
                                       (A/Ankara/08/2015(H1N1))
                                                                        GDFINYEELREQLSSVSSFERFEIFPKTSSWPNHDSNKGVTAACPHAGAKSFYKN
                                                                                                                                      164
ANC28532.1 hemagglutinin Influenza A virus
                                       (A/India/DRDE GWL989/2015(H1N1))
                                                                        GDFINYEELREOLSSVSSFERFEIFPKTSSWPNHDSNKGVTAACPHAGAKSFYKN
                                                                                                                                      164
AMM43282.1 hemagglutinin Influenza A virus (A/India/Kol-4628/2015(H1N1))
                                                                        GDFINYEELREOLSSVSSFERFEIFPKTSSWPNHDSNKGVTAACPHAGAKSFYKN
                                                                                                                                      164
                                                                                                                                      164
A0054236.1 hemagglutinin Influenza A virus (A/India/Kol-4992/2015(H1N1))
                                                                        GDFINYEELREQLSSVSSFERFEIFPKTSSWPNHDSNKGVTAACPHAGAKSFYKN
A0054237.1 hemagglutinin Influenza A virus (A/India/Kol-5018/2015(H1N1))
                                                                        GDFINYEELREQLSSVSSFERFEIFPKTSSWPNHDSNKGVTAACPHAGAKSFYKN
                                                                                                                                      164
                                                                        GDFINYEELREOLSSVSSFERFEIFPKTSSWPNHDSNKGVTAACPHAGAKSFYKN
A0054238.1 hemagglutinin Influenza A virus (A/India/Kol-5025/2015(H1N1))
                                                                                                                                      164
A0054239.1 hemagglutinin Influenza A virus (A/India/Kol-5065/2015(H1N1))
                                                                        GDFINYEELREQLSSVSSFERFEIFPKTSSWPNHDSNKGVTAACPHAGAKSFYKN
                                                                                                                                      164
                                                                        consensus
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ANZO3807.1 hemagglutinin Influenza A virus (A/Hunan/44557/2015(H9N2))
                                                                        MRWLTRKNGDYPTQDAQYTNNQGKNILFMWGINHPPTDDTQRNLYTRTDTTTSVA
                                                                                                                                      213
                                                                                                                                      219
AND61355.1 hemagglutinin Influenza A virus
                                       (A/Ankara/02/2015(H1N1))
                                                                        <u>LIWLVKKGNSYPKL<mark>N</mark>QSYINDKGKEVLVLWGIHHPSTTADQQSLYQNADAYVF</u>VG
AND61360.1 hemagglutinin Influenza A virus
                                       (A/Ankara/08/2015(H1N1))
                                                                        {\tt LIWLVKKGNSYPKL}_{\tt N}{\tt QSYINDKGKEVLVLWGIHHPSTTADQQSLYQNADAYVFVG}
                                                                                                                                      219
ANC28532.1 hemagglutinin Influenza A virus
                                       (A/India/DRDE GWL989/2015(H1N1))
                                                                        219
AMM43282.1 hemagglutinin Influenza A virus
                                       (A/India/Kol-4628/2015(H1N1))
                                                                                                                                      219
                                                                        	t LIWLVKKGNSYPKLSQSYINDKGKEVLVLWGIHHPSTTADQQSLYQNADAY<math>\overline{	ext{V}}FVG
                                       (A/India/Kol-4992/2015(H1N1))
                                                                                                                                      219
A0054236.1 hemagglutinin Influenza A virus
                                                                        LIWLVKKGNSYPKLSQSYINDKGKEVLVLWGIHHPSTTADQQSLYQNADAYVFVG
                                                                                                                                      219
A0054237.1 hemagglutinin Influenza A virus
                                       (A/India/Kol-5018/2015(H1N1))
                                                                        LIWLVKKGNSYPKLSQSYINDKGKEVLVLWGIHHPSTTADQQSLYQNADAYVFVG
A0054238.1 hemagglutinin Influenza A virus (A/India/Kol-5025/2015(H1N1))
                                                                        LIWLVKKGNSYPKLSQSYINDKGKEVLVLWGIHHPSTTADQQSLYQNADAYVFVG
                                                                                                                                      219
A0054239.1 hemagglutinin Influenza A virus (A/India/Kol-5065/2015(H1N1))
                                                                        LIWLVKKGNSYPKLSQSYINDKGKEVLVLWGIHHPSTTADQQSLYQNADAYVFVG
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ANZO3807.1 hemagglutinin Influenza A virus (A/Hunan/44557/2015(H9N2)) AND61355.1 hemagglutinin Influenza A virus (A/Ankara/02/2015(H1N1)) AND61360.1 hemagglutinin Influenza A virus (A/Ankara/08/2015(H1N1)) ANC28532.1 hemagglutinin Influenza A virus (A/India/DRDE GWL989/2015(H1N1)) AMM43282.1 hemagglutinin Influenza A virus (A/India/Kol-4628/2015(H1N1)) AOD54236.1 hemagglutinin Influenza A virus (A/India/Kol-4992/2015(H1N1)) AOD54237.1 hemagglutinin Influenza A virus (A/India/Kol-5018/2015(H1N1)) AOO54238.1 hemagglutinin Influenza A virus (A/India/Kol-5025/2015(H1N1)) AOO54239.1 hemagglutinin Influenza A virus (A/India/Kol-5065/2015(H1N1)) consensus	TEEINRIFKPLIGPRPLVNGLMGRIDYYWSVLKPGQTLRIKSDGNLIAPWYGHIL TSRYSKKFKPEIATRPKVRDQEGRMNYYWTLVEPGDKITFEATGNLVVPRYAFTM TSRYSKKFKPEIATRPKVRDQEGRMNYYWTLVEPGDKITFEATGNLVVPRYAFTM TSRYSKKFKPEIAIRPKVRDQEGRMNYYWTLVEPGDKITFEATGNLVVPRYAFTM TSRYSKKFKPEIAIRPKVRDQEGRMNYYWTLVEPGDKITFEATGNRVVPRYAFTM	268 274 274 274 274 274 274 274 274
ANZO3807.1 hemagglutinin Influenza A virus (A/Hunan/44557/2015(H9N2)) AND61355.1 hemagglutinin Influenza A virus (A/Ankara/02/2015(H1N1)) AND61360.1 hemagglutinin Influenza A virus (A/Ankara/08/2015(H1N1)) ANC28532.1 hemagglutinin Influenza A virus (A/India/DRDE GWL989/2015(H1N1)) AMM43282.1 hemagglutinin Influenza A virus (A/India/Kol-4628/2015(H1N1)) AOD54236.1 hemagglutinin Influenza A virus (A/India/Kol-4992/2015(H1N1)) AOD54237.1 hemagglutinin Influenza A virus (A/India/Kol-5018/2015(H1N1)) AOO54238.1 hemagglutinin Influenza A virus (A/India/Kol-5025/2015(H1N1)) AOO54239.1 hemagglutinin Influenza A virus (A/India/Kol-5065/2015(H1N1)) consensus	ERNAGSGIIISDTPVHDCYTTCQTPEGAINTSLPFQNIPPITIGKCPKYVKSTKL ERNAGSGIIISDTPVHDCYTTCQTPEGAINTSLPFQNIPPITIGKCPKYVKSTKL ERNAGSGIIISDTPVHDCNTTCQTPEGAINTSLPFQNIPPITIGKCPKYVKSTKL ERNAGSGIIISDTPVHDCNTTCQTPEGAINTSLPFQNIPPITIGKCPKYVKSTKL ERNAGSGIIISDTPVHDCYTTCQTPEGAINTSLPFQNIPPITIGKCPKYVKSTKL ERNAGSGIIISDTPVHDCYTTCQTPEGAINTSLPFQNIPPITIGKCPKYVKSTKL ERNAGSGIIISDTPVHDCYTTCQTPEGAINTSLPFQNIPPITIGKCPKYVKSTKL ERNAGSGIIISDTPVHDCYTTCQTPEGAINTSLPFQNIPPITIGKCPKYVKSTKL ERNAGSGIIISDTPVHDCYTTCQTPEGAINTSLPFQNIPPITIGKCPKYVKSTKL ERNAGSGIIISDTPVHDCYTTCQTPEGAINTSLPFQNIPPITIGKCPKYVKSTKL ERNAGSGIIISDTPVHDCYTTCQTPEGAINTSLPFQNIPPITIGKCPKYVKSTKL ERNAGSGIIISDTPVHDCYTTCQTPEGAINTSLPFQNIPPITIGKCPKYVKSTKL ERNAGSGIIISDTPVHDCYTTCQTPEGAINTSLPFQNIPPITIGKCPKYVKSTKL	323 329 329 329 329 329 329 329 329
ANZO3807.1 hemagglutinin Influenza A virus (A/Hunan/44557/2015(H9N2)) AND61355.1 hemagglutinin Influenza A virus (A/Ankara/02/2015(H1N1)) AND61360.1 hemagglutinin Influenza A virus (A/Ankara/08/2015(H1N1)) ANC28532.1 hemagglutinin Influenza A virus (A/India/DRDE GWL989/2015(H1N1)) AMM43282.1 hemagglutinin Influenza A virus (A/India/Kol-4628/2015(H1N1)) AOD54236.1 hemagglutinin Influenza A virus (A/India/Kol-4992/2015(H1N1)) AOD54237.1 hemagglutinin Influenza A virus (A/India/Kol-5018/2015(H1N1)) AOO54238.1 hemagglutinin Influenza A virus (A/India/Kol-5025/2015(H1N1)) AOO54239.1 hemagglutinin Influenza A virus (A/India/Kol-5065/2015(H1N1)) consensus	KLAVGLRNVPSRSSRGLFGAIAGFIEGGWSGLVAGWYGFQHSNDQGVGMAADRDS RLATGLRNVPSIQSRGLFGAIAGFIEGGWTGMVDGWYGYHHQNEQGSGYAADLKS	378 384 384 384 384 384 384 384
ANZO3807.1 hemagglutinin Influenza A virus (A/Hunan/44557/2015(H9N2)) AND61355.1 hemagglutinin Influenza A virus (A/Ankara/02/2015(H1N1)) AND61360.1 hemagglutinin Influenza A virus (A/Ankara/08/2015(H1N1)) ANC28532.1 hemagglutinin Influenza A virus (A/India/DRDE GWL989/2015(H1N1)) AMM43282.1 hemagglutinin Influenza A virus (A/India/Kol-4628/2015(H1N1)) AOD54236.1 hemagglutinin Influenza A virus (A/India/Kol-4992/2015(H1N1)) AOD54237.1 hemagglutinin Influenza A virus (A/India/Kol-5018/2015(H1N1)) AOD54238.1 hemagglutinin Influenza A virus (A/India/Kol-5025/2015(H1N1)) AOD54239.1 hemagglutinin Influenza A virus (A/India/Kol-5065/2015(H1N1))	TQMAIDKITSKVNNIVDKMNKQYEIIDHEFSEVETRLNMINNKIDDQIQDIWAYN TQNAIDKITNKVNSVIEKMNTQFTAVGKEFNHLEKRIENLNKKVDDGFLDIWTYN TQNAIDKITNKVNSVIEKMNTQFTAVGKEFNHLEKRIENLNKKVDDGFLDIWTYN TQNAIDKITNKVNSVIEKMNTQFTAVGKEFNHLEKRIENLNKKVDDGFLDIWTYN TQNAIDKITNKVNSVIEKMNTQFTAVGKEFNHLEKRIENLNKKVDDGFLDIWTYN TQNAIDKITNKVNSVIEKMNTQFTAVGKEFNHLEKRIENLNKKVDDGFLDIWTYN TQNAIDKITNKVNSVIEKMNTQFTAVGKEFNHLEKRIENLNKKVDDGFLDIWTYN TQNAIDKITNKVNSVIEKMNTQFTAVGKEFNHLEKRIENLNKKVDDGFLDIWTYN TQNAIDKITNKVNSVIEKMNTQFTAVGKEFNHLEKRIENLNKKVDDGFLDIWTYN TQNAIDKITNKVNSVIEKMNTQFTAVGKEFNHLEKRIENLNKKVDDGFLDIWTYN	433 439 439 439 439 439 439 439

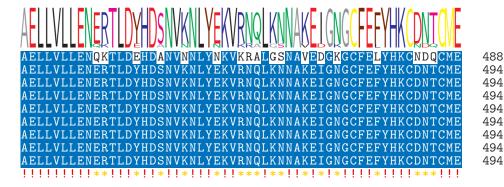
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ANZO3807.1 hemagglutinin Influenza A virus (A/Hunan/44557/2015(H9N2))
AND61355.1 hemagglutinin Influenza A virus (A/Ankara/02/2015(H1N1))
AND61360.1 hemagglutinin Influenza A virus (A/Ankara/08/2015(H1N1))
ANC28532.1 hemagglutinin Influenza A virus (A/India/DRDE GWL989/2015(H1N1))
AMM43282.1 hemagglutinin Influenza A virus (A/India/Kol-4628/2015(H1N1))
AO054236.1 hemagglutinin Influenza A virus (A/India/Kol-4992/2015(H1N1))
AO054237.1 hemagglutinin Influenza A virus (A/India/Kol-5018/2015(H1N1))
AO054238.1 hemagglutinin Influenza A virus (A/India/Kol-5025/2015(H1N1))
AO054239.1 hemagglutinin Influenza A virus (A/India/Kol-5065/2015(H1N1))
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ANZO3807.1 hemagglutinin Influenza A virus (A/Hunan/44557/2015(H9N2))
AND61355.1 hemagglutinin Influenza A virus (A/Ankara/02/2015(H1N1))
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A0054237.1 hemagglutinin Influenza A virus (A/India/Kol-5018/2015(H1N1))
A0054238.1 hemagglutinin Influenza A virus (A/India/Kol-5025/2015(H1N1))
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ANZO3807.1 hemagglutinin Influenza A virus (A/Hunan/44557/2015(H9N2))
AND61355.1 hemagglutinin Influenza A virus (A/Ankara/02/2015(H1N1))
AND61360.1 hemagglutinin Influenza A virus (A/Ankara/08/2015(H1N1))
ANC28532.1 hemagglutinin Influenza A virus (A/India/DRDE GWL989/2015(H1N1))
AMM43282.1 hemagglutinin Influenza A virus (A/India/Kol-4628/2015(H1N1))
A0054236.1 hemagglutinin Influenza A virus (A/India/Kol-4992/2015(H1N1))
A0054237.1 hemagglutinin Influenza A virus (A/India/Kol-5018/2015(H1N1))
A0054238.1 hemagglutinin Influenza A virus (A/India/Kol-5025/2015(H1N1))
A0054239.1 hemagglutinin Influenza A virus (A/India/Kol-5065/2015(H1N1))
consensus
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<u>SYKNGTYDYPKYSEEAKLNREKIDGVKLESTRIYQILAIYSTVASSLVLVVSLGA</u>

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ISFWMCSNGSLQCRICI
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non-conserved

 \geq 50% conserved

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