

Table 5A: Sequence alignment of Human, Bovine and Ovine Siglec 1, 2, 5, 6, 10, and 14

Siglec 1

Homo sapiens NCBI Reference Sequence: XM_011529325.2
 Bos taurus NCBI Reference Sequence: XM_002692384.5
 Ovis aries NCBI Reference Sequence: XM_004014721.3

CLUSTAL O (1.2.4) multiple sequence alignment

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Homo_sapiens      FPADVEVPDGITAIWYYDYSGRQVVSADPKLVEARFRGRTEFMGNPEHRVCNLLLKD
Bos_taurus        FPASVNVDPDGITTIWYYDYSGRQVVSSTKPKQLVEARFQGRAQMVGNPVLCNLLLKD
Ovis_aries         FPASVKVPDGITTIWYYDYSGRQVVSSTNPQLVEARFQGRAQLVGNPELKVLCNLLLKD
                  ***.*:*****:*****:*****:.*:*****:***:::***:*****

Homo_sapiens      LQPEDSGSYNFRFEISEVNRWSDVKGTLVTVTEEPRVPTIASPVELLEGTEVDFNCSTPY
Bos_taurus        LQPEDSGSYNFRFEISEGNRWVDVKGTAVTVTEELIMPTVASLAEHHEGMEVDFNCSTPY
Ovis_aries         LQPEDSGSYNFRFEISEVNRWVDVKGTAVTVTEELIMPTVASPAELHEGMEVDFNCSTPY
                  ***** ***** ***** :**:* .** ** *****

Homo_sapiens      VCLQEQVRLQWQGDPARSVTFNSQKFEPTGVGHLETLHMAMSWQDHGRILRCQLSVANH
Bos_taurus        ACLQEPVTLRWQGDPARSTTSTLQKFEPTGIHHQETLHMALSWQDHGRTLSCQLSAANH
Ovis_aries         ACLQEPVTLRWQGDPARSITSTLQKLEPTGIHHQETLHMALSWQDHGRTLSCQLSAANH
                  .**** * *:***** * . **:***: * *****:***** * ****.***

Homo_sapiens      RAQSEIHLQVKYAPKGVKILLSPSGRNILPGELVTLTCQVNSSYPVAVSSIKWLKDGVRLQ
Bos_taurus        KTQREIHLQVQYAPKGVKILLSPSGRNILPGDLVTLICQVNSSHPQVSSVQWVKDGTRLK
Ovis_aries         RTQREIRLQVQYAPKGVKILLSPSGRNILPGDLVTLICQVNSSHPQVSSVQWVKDGTHLK
                  :* **:****:*****:*****:**** *****:* ***:::***.:::

Homo_sapiens      TKTGVLHLPQAAWSDAGVYTCQAENGVGSLVSPPISLHIFMAEVQVSPAGPILENQTVTL
Bos_taurus        NRSRVLQLPRAAWADAGVYTCQAENGVGSSVSPVSLHIFMAAVQVSPAGSILENQTVTL
Ovis_aries         TRSRVLQLPQAAWADAGVYTCQAENGVGSSVSPVSLHIFMAVQVSPAGSILENQTVTL
                  .:: **:***:***:*****:* ***** *****:***** *****

Homo_sapiens      VCNTPNEAPSDLRYSWYKNHVLLEDAHSHTLRLHLATRADTGFYFCEVQNVHGSERSGPV
Bos_taurus        ACNTPKEAPRELRYAWYKNHELMKATHSRILQLHSVTRADTGFYFCEVQNAQGRERSDPV
Ovis_aries         ACNTPKEAPRELRYAWYKNHGLMKDTHSRILQLHSVTRADTGFYFCEVQNAQGRERSDPV
                  .****:*** :***:***** *:: **: *:* .*****:*****.* ***.***

Homo_sapiens      SVVVNHPPLTPVLTAFLETQAGLVGILHCSVSEPLATLVLSHGGHILASTSGDSHSPR
Bos_taurus        SVVVRHPPLTPHLTAFLETQAGLVGILQCSVSDPLATLVLSHEGLVLASTSGEGDQSPR
Ovis_aries         SVVVHHPPLTPHLTAFLETQAGLVGILQCSVSEPLASLVLSREGLILASTSGEGDQSPR
                  ***.****** ***** *****:*****:***:*****: * :*****:.*:***

Homo_sapiens      FSGTSGPNLSRLRLEIRDLEETDSGEYKCSATNSLGNATSTLDFHANAARLLISPAAEVVEG
Bos_taurus        FSVYSAPNALSRLRLEIRDLGPTDSGEYMCATNSLGNSSSTLDFHANVARLLISPAAEVAEG
Ovis_aries         FSVYSAPNALSRLRLEIRDLGPTDSGEYTCATNSLGNSSSTLDFHANVARLLISPAAEVAEG
                  ** *.*:***** ***** *****:*****:*****.*****.***

Homo_sapiens      QAVTLSCRSGLSPTPDARFSWYLNALLHEGPGSSLLLPAASTDAGSYHCRARDGHSAS
Bos_taurus        QVVTLSRCSLSLSPMPDTRFSWYRNALLLEGPSSLLLPVVSSTDAGSYHCRAQDGHGTS
Ovis_aries         QAVTLSCRSSLSLSPMPDTHFSWYRNALLLEGPSSLLLPVVSSTDAGSYHCRAQDGHGTS
                  *.*****.*** **:.**** ***** ***.*****.*****:***.::
    
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Homo_sapiens GPSSPAVLTVLYPPRQPTFTTRLDLDAAGAGARRGLLLLCRVSDSDPPARLQLLHKDRVVA
Bos_taurus GLSSPAVLTVLYAPRRPTFTAQLDPDT--AGAGQRGLLLLCRVSDSDPPAQLRFLHRGRVVA
Ovis_aries GLSSPAVLTVLYAPRRPTFTAQLDPDT--AGAGQRGLLLLCRVSDSDPPAQLRLLHRGRVVA
* ***** **.****:.* * : *****.****:.*.*.*.*.*

Homo_sapiens TSLPSGGGCSTCGGCSPRMKVTKAPNLLRVEIHNPLLEEEGLYLCEASNALGNASTSATF
Bos_taurus SSLPSGGSCSACGSCSPRTKVTRAPNLLRVEIQDPVLEDEGVYLCEASNALGNASASANF
Ovis_aries SALPSGGSCSACESCSRTKVTRAPNLLRVEIQDPVLEDEGVYLCEASNVLGNASASANF
:.****.*.*.* ** * ***.****:.*.*.*.*.*.*.*.*.*.*.*.*.*.*.*

Homo_sapiens **NG**QATVLAIAPSHTLQEGTEANLTC**NV**SREAAGSPANFSWFRNGVLWAQGPLETVTLLPV
Bos_taurus NAQATVLVITPSHTLQEGTGANLTCRVSREA-GGPANFTWFRDGLWAQGPLETTLTLLPV
Ovis_aries NAQATVLVITPSHTLQEGTGANLTCRVNREA-GGPANFTWFRDGLWAQGPLETTLTLLPV
* .*****.*.****.*.* ** * .*****.*.*.*.*.*.*.*.*.*.*.*.*.*.*.*

Homo_sapiens ARTDAALYACRILTEAGAQLSTPVLLSVLYPPDRPKLSALLDMGQGHMALFICTVDSRPL
Bos_taurus ARTDAALYACRILTEAGAQLSTPVVLQVLYPPDPKLSALLDQVGHAVFVCTVDSRPP
Ovis_aries ARTDAALYACRILTEAGAQLSTPVVLRVLYPPDPKLSALLDQVGHAVFVCTVDSRPP
*****.*

Homo_sapiens ALLALFHGEHLLATSLGPQVPSHGRFQAKAEANSLKLEVRELGLGDSGSYRCEATNVLGS
Bos_taurus AQLALFHGEHLLATSPGPQLPSRHLQAKTTANFLQLEVQDLSLKDSGSYRCEANNALGS
Ovis_aries AQLALFHGEHLLATSPGPQLPSRGLQAKTTANFLQLEVQDLSLKDSGSYRCEANNALGS
* *****.*

Homo_sapiens **SNT**SLFFQVRGAWVQVSPPELQEQAVVLSQVHTGVPEGTSYRWYRDGQPLQESTSAT
Bos_taurus SNTSLFFQVRGAWVQVSPPELREGQAVVLSQVPTGVLEGTSYRWYRDGQPLQEFTSAT
Ovis_aries TNTSLFFQIRGAWVRVSPPELREGQAVVLSQVPTGVLEGTSYRWYRDGQPLQEFTSAS
:.****.*

Homo_sapiens LRF~~AAIT~~LTQAGAYHCQAQAPGSATTSLAAPISLHVSYAPRHVTLTTLMDTGPGRLGLLL
Bos_taurus IRFAAITLSQAGAYHCQAQAPGSATTNLAAPVSLHVSYAPRQATLTLTMDTGPGRLGLLL
Ovis_aries VRFAAITLSQAGAYHCQAQAPGSATTNLAAPVSLHVSYAPRQATLTLTMDTGPGRLGLLL
:.****.*

Homo_sapiens CRVSDSDPPAQLRLLHGDRLVASTLQGVGGPEGSSPRLHVAVAPNTRLRLEIHGAMLEDEGV
Bos_taurus CRVNSDPPAQLRLLHGDRLVSTLQGVGELAGSSPRLQVAVAPNTRLRLEIHNAVLEDEGV
Ovis_aries CHVNSDPPAQLRLLHGDRLVASTLQGVGELAGSSPRLQVAVAPNTRLRLEIHNAVLEDEGI
.

Homo_sapiens YICEASNTLGQASASADFDAQAVNVQVWPGATVREGQLV**NL**TCLVWTTTHPAQLTYTWYQD
Bos_taurus YTCEATNALGQALASATFDAQAVSVQVWPKATVQEGQLV**NL**TCLVWTT-LTQLTYTWYQD
Ovis_aries YTCEATNALGQALASATFDTQAVSVQVWPKATVQEGQLV**NL**TCLVWTTHTVQLTYTWYQD
* ***.*.*.*.* ** **.*

Homo_sapiens GQQRDA-HSIPL**PN**VTVRDATSYRCGVGPPGRAPRLSRPITLDVLYAPRNLRLTYLLES
Bos_taurus GQQRPDAAQSIALPNVTVDATSYSCGVLI PGQTLHRSRPVTLDVLYAPRSLRLTYLLES
Ovis_aries GQQRDA-----XPLSCGVLI PGQTLHLSRPVTLDVLYAPRSLRLTYLLES
**** ** *** **.*

Homo_sapiens HGGQLALVLCTVDSRPPAQLALSHAGRLLASSTAASVPNTLRLELRGPQRDEGFYSCSA
Bos_taurus RGGQLALVLCTVDSRPPAQLVLSHAGRLLASSTASVPNTLQLELWEPGSPDEGLYSCSA
Ovis_aries RGGQLALVLCTVDSRPPAQLVLSHAGRLLASSTASVPNTLQLELWEPSPDEGLYSCSA
:.****.*

Homo_sapiens RSPLGQ**ANT**SLELRLEGVRVILAPEAAVPEGAPITVTCADPAHAHPTLYTWYHNGRWLQE
Bos_taurus HSPLGQVNTSLELRLEVQVTLAPSATVPEGAPITVSCEDPAARPPTLYAWYHNSRWLQE

Ovis_aries RSPLGQVNTSLELRLEGVQVTLAPSATVPEGAPITVSCEDPAARPPTVYAWYHNSRWLQE
:*****.***** *:* ***.*:*****:* *****: **.*:*****.*****

Homo_sapiens GPAASLSFLVATRAHAGAYSCQAQDAQGTRSSRPAALQVLYAPQDAVLSSFRDSRARSMA
Bos_taurus GPEASLSFPVVTRAHAGAYTCQVRDAQGTRSSRPTALHVLVYAPRDAAVSSFWDSRSSPMA
Ovis_aries GPEASLSFPVVTRAHAGAYSCQVRDAQGTRSSRPTALHVLVYAPRDAAVSSFWDSRTSPMA
** ***** *.*****:***.:*****:***:*****:***.:*** ***: **

Homo_sapiens VIQCTVDSEPPAELALSHDGKVLATSSGVHSLASGTGHVQVARNALRLVQVQDVPAGD-DT
Bos_taurus VVQCTVDSEPPAELALARNGKVLATSNGIPGLAVETGHVQVARNALRLRVQAVPSGDEDT
Ovis_aries VVQCTVDSEPPAELALARNGKVLATSNGIPGLAVETGHVQVARNALRLRVQAVPSGDEDT
*:*****:*****:***:*****.*: ** *****:*** ***:** **

Homo_sapiens YVCTAQNLLGSIS-TIGRLQVEGARVVAEPGLDVPEGAALNLSRLLGGPGPVGNSTFAW
Bos_taurus YVCTARNLLGSVSTTLGQMQAEGVHVVAEPGLDVPEGAALNLSQQLPGGPGLMGNSTFTW
Ovis_aries YICTARNLLGSVSTTLGQLQAEGVHVLAEPGLDVPEGAALNLSQQLPGGPGLMGNSTFTW
*:***:*****:* *:*:*.**.:*:*****:*** ***: ***:**

Homo_sapiens FWNDRRLHAEPVPTLAFTHVARAQAGMYHCLAELPTGAAASAPVMLRVLYPPKTPMTMVF
Bos_taurus FWNGRRLHTEPVPTVAFTHVARDQAGMYHCQAEELPTGATASAPVTLRVLYPPKTPMTVVF
Ovis_aries FWNGRQLHTEPVPTLAFTHVARDHAGMYHCQAEELPTGATASAPVTLRVLYPPKTPMTVVF
.*::*****:***** :***** *****:***** ***** **

Homo_sapiens VEPEGGLRGILDCRVDSEPLASLTLHLGSRLVASSQPQGAPAEPIHVLPALRVLDIE
Bos_taurus VEPEGGIQGILDCRVDSEPLASLTLHLGSRLVASSQSKVAPAKPHIHVSVTPNALRVVIE
Ovis_aries VEPEGGIQGILDCRVDSEPLASLTLHLGSRLVASSQSKIAPAKPHIHVSVTPNALRVVIE
*****.:*****:*****:***** :***:***** .:***** **

Homo_sapiens ALRPSDQGEYICSAASNVLGSASTSTYFGVRLHRLHQFQQLLWVLGLLVGLLLLLLGLGA
Bos_taurus ELRPSDQGEYVCSASNSLGSASAATYFGTRALHRLQLFQQLLWVLGLLAGLLSLLLGLGA
Ovis_aries ELRPSDQGEYVCSASNSLGSASAATYFGTRALHRLQLFQQLLWVLGLLAGLLCLLLGLGA
*****:***** *****.:*****.*****: *****.*** *****

Homo_sapiens CYTWRRRRVCKQSMGENSVEMAFQKETTQLIDPDAATCETSTC--APPLG----
Bos_taurus YYTWRRRRNFHKLREGENSVEMASQKETMQEEVET-RICDDSDPVNNAALGPDSL
Ovis_aries YYTWRRRRHFQKLREGENSVEMASHRETMQEEVET-RICDDSSPVNNAALGPDSL
*****.* * ***** :** * : * * **

Siglec 2

Homo sapiens NCBI Reference Sequence: **NM_001771.**
Bos taurus NCBI Reference Sequence: **XM_015458109.1**
Ovis aries NCBI Reference Sequence: **XM_012190174.2**

CLUSTAL O (1.2.4) multiple sequence alignment

```
Homo_sapiens -----
Bos_taurus   SGDQKGKGVGIGAQEELSGRCQRPGGSKTNSWPRLPRHSTMHLLGPSLLLLLEYLAFSDS
Ovis_aries   SGDQKGKGVGICAQEELSGRCQRPGGSKTNSWPRLPRHSTMHLLGPSLLLLLEYLAFSDS

Homo_sapiens -----TYRA---LDGDLESFILFHNPEYNKNTSKFDGTRLYES
Bos_taurus   AWNFRHPKTLYAWDGACVWI PCTYSSVKGGGHTLDNLTVYHNFTYDKKTKHYNGTILYNK
Ovis_aries   TWKFKHPETLYAWDGACIWI PCTYYWPKGGGHTLDNVTVYHNFTYDKEAKHYKGTILYYK
                **      .   *:. . ::** *:*:. . :.* ** .

Homo_sapiens TKDGK-VPSEQKRVQFLGDKNNCTLSIHPVHLNDSGQLGLRMESKTEKWMERIHLNVSE
Bos_taurus   SLKTKESTPSQERVQFLGNRRNCTLLINPVKVNDSGLLGLRVTSGLDKWMASLNLSISE
Ovis_aries   NLKAKEPTPSQERVQFLGNRRNCTLLINPVKVNDSGPLGLRMTSGLDKWMEPLALNISE
                . . *      .*:*****:..:***** *:*:. :***** *****: * :*** : *:.**

Homo_sapiens RPFPPHIQLPPEIQESQEVTLTCLNFSCYGYPIQLQWLLEGVPMRQAAVTSTSLTIKSV
Bos_taurus   SAPQPHIELHQEIREDEVTVTCSLNFACRDYQVHLQWSLEGSVTT-----STILSPERV
Ovis_aries   RAPQPHIELRQEIYEDQEVTVTCSLNFACHDYQIHLQWSLEGSVTT-----NTILSPDMV
                ***:*   * * *.*****:* *:*:* . * ::* ** * . * * : . *

Homo_sapiens FTRSELKFSPQWSHHGKIVTCQLQDA-DGKFLNDTVQLNVKHTPKLEIKVTPSDAIVRE
Bos_taurus   ATQSHLSFQPKWTHDGKNLTCQLWDPMKQRI LSEKTVLLEVKHAPNLEIQVSPQEAIVTE
Ovis_aries   ATQSRLSFQPKWSDHGKNLTCQLWDPMKQRV LSEKTVLLEVKHAPKLEIQVSPPEEATVTE
                *:.*.*.*.*:*.*.** :***** * . :.***:.** *:*:*:.*:***:*.:.:* * *

Homo_sapiens GDSVTMTCEVSSSNPEYTTVSWLKDGTSLLKQNTFTLNLREVTKDQSGKYCCQVSNVGV
Bos_taurus   GESVTMRCQVISSNPPHWSVSWFKDRTKLKEQGT-TLVLPVETRMMSGQYTCQVSNVGS
Ovis_aries   GESVTMRCQVT-SNPPHWSVSWFKDGTQLEEQGT-TLTLPEVTRMMSGQYTCQASNDVGL
                *:*:* *:* * * * : :***** * *:.:*. * * * * * * * * * * * * * * * *

Homo_sapiens GRSEEVFLQVQYAPEPSTVQILHSPAVEGSQVEFLCMSLANPLPTNYTWYHNGKEMQGRT
Bos_taurus   RQSDVVDLQVHYPPPEPSWVQLSPSSIKEGVTVELTCMSVANPPPANYTWYFNEQEIPGKN
Ovis_aries   RQSDAVDLQVHYAPEPSRVQLSPSSIKEGVTVELACISAANPPVNYTWYFNEQELPGKN
                :*: * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *

Homo_sapiens EEKVHIPPILPWHAGTYSCVAENILGTGQRGPGAELDVQYPPKKVTTVIQNPMPIREGDT
Bos_taurus   GRTFQIPQVLVKHAGRYSCLAENSLGPGSVDREADLNQYPPKGVTTVIQNPTPIREGDS
Ovis_aries   GRTFQIPQVLIKHAGKYSCLAENSLGPGSVGQEADLDVQYPPKGVTTVIQSPTPIREGDS
                ...:***:.* * * * * * * * * * * * * * * * * * * * * * * * * * * * *

Homo_sapiens VTLSCNYNSSNPSVTRYEWKPHGAWEEP SLGVLKIQNVGWDNTTIACAACNSWCSWASPV
Bos_taurus   VTLSCTFNSSNPRVTRYNWNNSPGSQDHTS-QKLTIQKVTWDAQPVKCEACNQWCSWSPSV
Ovis_aries   VTLSCTFNSSNPTVTRYNWNNSPGSQDQTS-QKLTIRKVAWDAQPVKCEACNQWCSWSPSV
                *****.:***** *****:*: * :. * * * * * * * * * * * * * * * *

Homo_sapiens ALNVQYAPRDVVRKIKPLSEI HSGNSVSLQCDFSSSHPKVEVQFFWEKNGRLLGK-ESQL
Bos_taurus   NLNVLYAPRDVNI-QISPNT EIQSEKRVLLQCQYSSSRPADVHFFWKDGS L-LKEGKTL
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Ovis_aries      NLNVLYAPKDVSI-QISPHEIRSGKRILLQCEFSSSRPADIHVFWKKGSLLLKAGKTL
                *** ***:** : :*. * :**:* : : ***:***:* :*:**:* * * . *

Homo_sapiens   NFDSISPEDAGSYSCWVNNSIGQTASKAWTLEVLVYAPRRLRVSMSPGDQVMEGKSATLTC
Bos_taurus     TFGQIFPEDSGTYHCLVNNSIGQTSSKAYELQVLYAPRRLRVSI SPKDGVEGKTAVLTC
Ovis_aries     TFDPIPEDSGTYHCLVNNSIGQTSSEARELRVMYAPRRLRVSI SPKDGVEGKTAVLTC
                *. * ***:** * *****:*** * *.*****:*** * *:***:*.***

Homo_sapiens   ESDANPPVSHYTWFDWNNQSLPYHSQKLRLEPVKVQHSGAYWCQGTNSVGKGRSPLSTLT
Bos_taurus     ESDANPPI SHYDWF DGKNQDLHYYGQMLRLEPVKLQHAGSYWCRGTNRLGQSQSPPTTLT
Ovis_aries     ESDANPPTSHYNWFDGNNQDLHYYGQTLRLEPVKLQHAGSYWCRGTNHLGQSQSPPTTLT
                ***** ** * * :*. * :*. * *****:***:***:*** * :*:** :***

Homo_sapiens   VYVSPETIGRRVAVGLGSCLAAILILAICGLKLRWKRTQSQQGLQENSSGQSFFVRNKK
Bos_taurus     VYVSAATISRRALGVGFCLAI FLLAIWGVKLRQSWKRIQRQQGLQE SSSGQSFFVRNLK
Ovis_aries     VYVSAATISRRALGVGFCLAI FLLAVWGVKLRQNWKRIQRQQGLQE SSSGQSFFVRNIK
                **** **.*.*:*. * *****:***: *.*** ** * *****.***** *

Homo_sapiens   VRRAPLSEGPLSLGCYNPMMEDGISYTTLRFPE--MNI PRTGDAESSEMQRPPPDCDDTV
Bos_taurus     AR RTPQAERPASLGCYNPVMEDAVSYATLSFPLGETDTRRLRDAGSSEMREI PPSRDDR
Ovis_aries     AR RTPQAERPASLGCYNPVMEDTVSYATLSFPLGETDTQRLRDAGSSEMREI PPSRDDR
                .**:* :* * *****:*** :**:* * * : * ** ***: . ** . ** *

Homo_sapiens   TYSALHKRQVGDYENVIPDFPEDEGIHYSELIQFGVGERPQ-----AQENVDYVILKH--
Bos_taurus     TYAVVQNCQVPCPFLSVSKRQNPQQVVSSS--ISQGRWMTNAGL GREAAENLRFKGY
Ovis_aries     TYAVVQNSQVADYENVTPVLDDEGIHYSELVHFGNGKRA-----LAQEGVEYVTLKH--
                **::: ** . : : *. :. *. :.* :. : : *

Homo_sapiens   -----
Bos_taurus     DHFFGGSYGAENLTLPALEA
Ovis_aries     -----

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Siglec 5

Homo sapiens NCBI Reference Sequence: **XM_017027419.1**

Bos taurus NCBI Reference Sequence: **XM_005219563.3**

Ovis aries NCBI Reference Sequence: **XM_015105272.1**

CLUSTAL O (1.2.4) multiple sequence alignment

```
Ovis_aries      SYPWSSGNSWYSSEEPFIYWFREDRH-YHDAVATNDLKKRVKSETQGRFLLGDPRDND
Homo_sapiens   -YPWRSWY--S-SPPLYVYWFRDGEIPYYAEVVATNNPDRRVKPETQGRFLLGDVQKKN
Bos_taurus     -YPWNSGYPPY-SGELFIYWFREKQDQH-TNDAVATNDPRKRVKPETRGRFSLLGDPSNND
                *** *           *      :*****: :           :.*****: :*** **.*** ***. ** .::

Ovis_aries      CSLSIKEARLSDSGVYYLRVERGS-LKYNIREKQLNLQVT---EKPDIQFLEPLESGHHT
Homo_sapiens   CSLSIGDARMEDTGSYFFRVERGRDVKYSYQQNKLNLEVTALIEKPDHFLEPLESGRPT
Bos_taurus     CSLSIRQARLSDSGVYYFRVERGYDVRHSYREKKNLQVT--GEKPDHFLEPLESGRPT
                ***** :**:.**.* *::***** :::.*:::***:** *****:*****: *

Ovis_aries      PLTCSLSLVCDGPHPLFSWAGDTLDAMNPDTLHSSELTLTTPRP-PHGTNLTCRVTLHGT
Homo_sapiens   RLSCSLPGSCEAGPPLTFSWTGNALSPLDPETTRSELTLTTPRPEDHGTNLTCQMKRQGA
Bos_taurus     KLTCRLSLACDEPHPLFSWAGDAFDAMKPDTLHSSELTLTTPRAQDHGTNLTCLVTFQGS
                *:* *      *: ** ***:***** :.*:* :***** ** ***** :. :*:

Ovis_aries      QVTLERTVQLNVSCELGGVAGSLRVVGCVCG-----CLRCVERRLAHS
Homo_sapiens   QVTTERTVQLNVSYAPQTITI---FRNGIALEILQNTSYLPVLEGGQALRLCCDAPSNPPA
Bos_taurus     QVALERTIWLNVSYAPRNLRLISLSFRNVTAFKILQNTSSILIPEGQELQLLCVADSKPPA
                **: ***: **** : . . . * * :

Ovis_aries      SMGLRPGS-----
Homo_sapiens   HLSWFQGSPALNATPISNTGILELRRVRSAEEGGFTCRAQHPLGFLQIFLNLSVYSLPQL
Bos_taurus     QLSWFRGSPTLEATPISSTGVLELPYVGAAEEGEFTCQAQNPLGSENISLSLIVVSPPQL
                :. **

Ovis_aries      -----
Homo_sapiens   LGPSCSWEAEGLHCRCSFRARPPAPSLCWRLEEKPLEGNSSQGSFKVNSSSAGPWANSSLI
Bos_taurus     LGPSCSQEDEGLRCSCSSRARPPAPSLHWRLGKLLLEGNFSNASFEVSSSSAGPWANGSLS

Ovis_aries      -----
Homo_sapiens   LHGGLSSDLKVSCKAWNIYGSQSGSVLLLQGRSNLGTGVVPAALGGAGVMALLCICLCLI
Bos_taurus     LREGLSSGVSLSCEALNIHGARSGSVLLLPGKPAF---LVVGALGGAGAMALLSLCLCFL

Ovis_aries      -----
Homo_sapiens   FFLICTVLVSFLRVKARRKQAAGRPEKMDEDPIMGTITSGSRKKPWPDSPGDQA--SPP
Bos_taurus     FFYI-----LKARRKQAAMRPEGVDEDPVMGTVAWGSRKKPCSDSPDQMVLSPA

Ovis_aries      -----
Homo_sapiens   GDAPPLEEQKELHYASLSFSEMKSREPKDQEAPSTTEYSEIKTSK
Bos_taurus     EDAPPPEQEDLHYASLNFHEMTSREPDQEATS-TEYSEIKTS-
```

Siglec 6

Homo sapiens NCBI Reference Sequence: XM_011527533.2

Bos taurus NCBI Reference Sequence: XP_015313754.1

Ovis aries NCBI Reference Sequence: XM_015105285.1

CLUSTAL O (1.2.4) multiple sequence alignment

```
Ovis_aries -----  
Homo_sapiens -----  
Bos_taurus MIPKLQTRPRVSNNTDSATPASGDHMLSWLERAIPLWIQPELKSSSRPMIEGENTFYHLHSK
```

```
Ovis_aries -----  
Homo_sapiens -----LCVLVP--CRLPTTLPASY--YGYGY  
Bos_taurus CSKSLGYWPPSKEMAQRDPEGGSCPGGHQGRDAAVAAAAAASGMGRFSLPWVSFGKFYMF
```

```
Ovis_aries -----  
Homo_sapiens WFLEGA----DVPVATNDPDEEVQEETRGRFHLLWDPRRKNCSLSIRDARRRDNAAYFFR  
Bos_taurus WFRERADTKRDPPVATNKPEQKLRREGTQGRFSVPGE PQAGNCSLSITDVNAGDSGTYFFQ
```

```
Ovis_aries -----  
Homo_sapiens LKSKWMKYGYTSSKLSV-----  
Bos_taurus VETHFRKYAYLNKMLFLNVIGTVGSLRERKGGKPGLGWRHDKTPGQANKMPRGPALSF
```

```
Ovis_aries -----AIQLNVSCCEGGVAESLRQWCVMCV-----  
Homo_sapiens --RVMALTHRPNISIPGTLESQHPSNLTCSVPWVCEQGTPPIFSWMSAAPTSLGPRTTQS  
Bos_taurus SLPSPALTHQPHVRS PGALEPGRPGNLTCSVPWACERATPPIFSWTS AAPSSLGPRTPFS  
: . * * : : . * .
```

```
Ovis_aries -----CECVE-----RRPAYSSMGLHPGTSPCLSAPDAPRNLRLISL  
Homo_sapiens SVLTITPRPQDHSNTLTCQVTFPGAGVTMERTIQLNV-SWMLRRPPLSTPDAPQKVAISI  
Bos_taurus SVITLTPRPQDHGTRLTCQVKFPTSGVMVKRTILLNV-TY-----APQHVAISI  
* . * . : **::: **:
```

```
Ovis_aries PFRNVTALKILQNTSSLLISESQAPQLLCVADSXPPAQLSWFPGSPALEARNSSTGILE  
Homo_sapiens FQGNAAFKILQNTSSLPVLEGQALRLLCDADGNPPAHLWFGFPALNATPISNTGVLE  
Bos_taurus FQGNRTALKILQNTSSLPVQEGQALQLLCVADSNPPAQLSWFRGSPALEARNSSTGVLE  
* :*:***** : *.** :*** **. ***:***** * ***:*: * .**:*
```

```
Ovis_aries MQDLGPAE-REFTWRAQNPLGSQHVSARGQTCRHHCELLPGNA-----  
Homo_sapiens LPQVGSAAEEGDFTCRAQHPLGSLQISLSLVHVKPEGRAGGVLGAVWGASITTLVFLCVC  
Bos_taurus LPCVGAEEGEGFTCRAQNPLGSQNISLSLSVCKRQPWAGKVLGAVGGAGITVLLSLCLY  
: :* ** :** ***:***** :*: . : : * .
```

```
Ovis_aries -----  
Homo_sapiens FIFRVKTRRKKAAQPVQNTDDVNPVMVSGSRGHQHGFQGTGIVSDHPA--EAGPISEDEQE  
Bos_taurus LIFRVKTHRK--TQPVQSMDDTNQAGGSGSRERQPFWTDTPADHPAPAGAGPISRNEQE
```

```
Ovis_aries -----  
Homo_sapiens LHYAVLHFHKVQPQEPKVTDTEYSEIKIHK
```

Bos_taurus

LHYAFLQFHKPKPQKQESTHTEYSEIKIHK

Siglec 10

Homo sapiens NCBI Reference Sequence: XM_011527439.1

Bos taurus NCBI Reference Sequence: NM_001206277.1

Ovis aries NCBI Reference Sequence: XM_015100070.1

CLUSTAL O (1.2.4) multiple sequence alignment

```
Homo_sapiens      YPRQDWTGSTPAYGYWFKAVTETTKGAPVATNHQSREVEMSTRGRFQLTGDPAKGNCSLV
Bos_taurus        -PSRGWSPTTPAYGFWFRDQTP-KPSLPVATNKPQDQDVTSTQGRFQLLGDPS-SCSLL
Ovis_aries         -PSRGWSPTTPAYGFWFRDKTP-KPSLPVATNKPQDQDVTDTQGRFQLLGDPNQ-SCSLL
                  *  .:* :*****:**  *  . . *****: .:*** .*:***** *** : .***:

Homo_sapiens      IRDAQMQDESQYFFRVERGSIYVRYNFMNDGFFLKVTGT-----
Bos_taurus        IREAHLEDSAVYFFRFERGDYVKYNFMEYKFYLEVLTALTQKPEIYVPEILQPGHQVTLFC
Ovis_aries         IREAHLEDSALYFFRFERGDYVKYNFMEYKFYLEVLTALTQKPEIYVPEVLQPGHQVTLFC
                  **:*::*.: ****.***.***:****: *:*:**.

Homo_sapiens      -----KPTTSHFSVLSFTPRPQDHNTDLTCHVDFSRKGV
Bos_taurus        AFNWIHFDECPVPTLSWIGNTVSPNEASSRYSYFSELTFTPRPQDHNTELTCTRVDFSRQGV
Ovis_aries         AFNWIHFDECPVPTLSWIGNTVSPHKASRYSYFSELTFTPRPQDHNTELTCTRVDFSGEGV
                  .   **:* *:******:***:** :**

Homo_sapiens      SAQRTVRLRVAYAPRDLVISISRDNTPALEPQPQGNVPYLEAQKQFLRLLCAADSQPPA
Bos_taurus        STENTVRLSVAYAPKDLVISISYTDPEALEP--RGDSPHLEVQKQSLRLLCTADSLPLA
Ovis_aries         SAENTVRLSVAYAPKDLVISVSHTDEPALEP--GGESPHLEVQKQSLRLLCTADSLPLA
                  *::***** *****:*****:* : ***** *:*:**.***** *****:*** * *

Homo_sapiens      TLSWVLQNRVLSSSHWPGRPLGLELPGVKAGDSGRYTCRAENRGLSQQRALDLSVQYPP
Bos_taurus        TLSWTLQDRVLSWSHPLGSTALLPRVKAEDAGRYTCRAENRGLFLSRSLDLSVQYAP
Ovis_aries         TLSWTLQDRVLSWSHPLGSTALLPRVKAEDAGRYTCRAENRGLFLSRSLDLSVHYAP
                  ****.*:**.***** *** * * * * * * * * * * * * * * * * * * * * * * *

Homo_sapiens      ENLRVMVSQANRTVLENLGNSTSLPVLEGQSLCLVCVTHSSPPARLSWTQRGQVLSPSQP
Bos_taurus        ENLKMVSQANRTALENLESGASLRVLEGQSLRLLCVAHSNPPAQLSWARLGRVSPSPQ
Ovis_aries         ENLKMVSKANRTALENLESGASLQVLEGQSLRLLCVAHSNPPARLSWARQGRVSPSPQ
                  ***:***:***.***.***.***.***.***.***.***.***.***.***.***.***.***

Homo_sapiens      SDPGVLELPRVQVEHEGEFTCHARHPLGSQHVSLSLSVHYSKLLGPSCSWEAEGHLCSC
Bos_taurus        SDPGVLELPIQTEQEGEFTCRAQNPLGSQNNLSLFLVVSPPQLLGPSCSQEDEGLRCSC
Ovis_aries         SDPGVLELPIQTELEGEFTCRAQNLLGSQNISLFLVVSPPQLLGPSCXD--EVLRCSC
                  *****:*. * *****:***: *****: ***** * * * * * * * * * *

Homo_sapiens      SSQASPAPSLRWLGEELLEGNSSQDSFEVTPSSAGPWANSSLSLHGGLSSGLRLRCEAW
Bos_taurus        SSRARPAPSLRWRLGERLLEGELSNASFEVASSSAGPWANSSLSLREGLSSGLRLSCEAL
Ovis_aries         SSEPRPAPPA-LALGGLWR-GVSNASFEVASSSKGPWATSPLSLREGLSSGLRLSCEAL
                  ** . *** ** * . * : *****: ** *****.* ***: ***** **

Homo_sapiens      NVHGAQSGSILQLPDKKGLISTAFSNGAFLGIGITALLFLCLALIIMKILPKRRTQTE--
Bos_taurus        NGHGAQSGSVLLLPEDEKGLASGAFASGISLIGIVTLLFLCFILVVRTLRKKWTQAK--
Ovis_aries         NGHGAQSGSVLLLPEDEKGLASGAFSSGISLIGIVTLLFLCFILVVRTLRKKWTQGEVP
                  * *****.* ***.*** * **.* *****:*****: *::: * * : * * :

Homo_sapiens      -----TPRPRFSRHSTILDYINVVPTAGPLAQKRQKATPNSPRTPLPPGAPSPESK
Bos_taurus        -----APRSRFSRRSTILDYINVIPKAGPLVSK--QKAKPSSPSQPPPADGHSLEAR
```

Ovis_aries APAPAPGEAPRSRFSRRSTILDYINVIPKAGPLK---QKAKPSSPSQPPPPDGHSPEAR
: ** *****:*****:*.***** ***.*.* * * .. * *::

Homo_sapiens KNQKKQYQ-LPSFPEPKSSTQAPESQESQEELHYATLNFPQVPRPRPEARMKGTQADYAE
Bos_taurus KNQKELHPVSHNCPGPKSSLQASEAENNQEELHYAVLNFPGLRPWET-QRPEGTHP----
Ovis_aries KNQKELHLVSHNCPGPKSSPQASEAENNQEELHYAVLNFPGLRPWET-QRPEGTHPEYAE
****: : . * **** ** *:::*****.*****:** : *:*:

Homo_sapiens VKFQ
Bos_taurus ----
Ovis_aries IQFH

Siglec 14

Homo sapiens NCBI Reference Sequence: XM_017026113.1

Bos taurus NCBI Reference Sequence: XM_015458276.1

Ovis aries NCBI Reference Sequence: XM_015100052.1

CLUSTAL O (1.2.4) multiple sequence alignment

```
Homo_sapiens      -YPWRSWYSSPPLYVYWFRDGEIPYYAEVVATNNPDRRVKPETQGRFRL LGDVQKKNCSL
Bos_taurus       -YQWYPWYPSMEPIIYWFREGDGPHS-DPVATNDPNRRQKPETQGRFRL VGDPGINDCSL
Ovis_aries       SYPWSSWYSSMEPFIYWFREGDGPHS-DPVATNNPKRPVKTETQGRFRL LGDPSHKDCSL
                  * *  ** *      :****:*: * :  ****:*.* * *****:**      :****

Homo_sapiens     SIGDARMEDTGSYFFRVERGRDVKYSYQQNKLNLVLTALIEKPD IHFLEPLESGRPTRLS
Bos_taurus       SIKEARLSDSGIYYFRVERGPNVKYNYRDKKLNLQVTA--EKPD IQFLEPLESGHPTKLT
Ovis_aries       SISDARMSDTGVYYFRVERD-EVKYSYRDKKLR LQVTAPLGKPYIQFPEPLEAGRPTTLT
                  ** :**:.**:* *.*****. :***.*::**.*:*** ** *:* *****:** ** *:

Homo_sapiens     CSLPGSCEAGPPLTFSWTGNALSPLDPETTRSELTLTPRPEDHG TNLTCQVKRQGAQVT
Bos_taurus       CSLSLPCDERHPLLFWSWAGDTLDEM DPGTLHSELTLTPRPQDHGTNLTC LVTLQGTQVT
Ovis_aries       CTLSLASGGGLPLLFWSWAGEAVESIDPDTLHSELTLTPRPQDHGTNLTC WVTLQGSQVT
                  *: *      .      ** **:*:~::~. :** * :*****~::~***** * . **:***

Homo_sapiens     TERTVQLNVSYAPQNLAISIFF-----
Bos_taurus       LERTVRLNVSYAPQLVITRLS QESFTDLNGTSLPILEGQFLRLV CVADSNPPATLSWLWE
Ovis_aries       LETTVQLNVSYAPRLVTT RISSQESFTDLNGTSLPILEGQFLRLV CVADSNPPAMLSWLWE
                  * **:******: :      :

Homo_sapiens     -----RNGTG-----TGSSSSCICVTEK
Bos_taurus       GKALSPSHRSAPGVLEI PRVGV RDGGEVTCRAQHPLGSQQV SFSLSVQKSPPPCSCETEE
Ovis_aries       GKPLSPSQHSAPGVLEI PRVGVGDGGEVTCRAQHPLGSQQV SFSLSVQKSPPPCCKTEE
                  * *.      .      * * ** :

Homo_sapiens     QQGSWPLVLT LIRGALMGAGFLLTYGLTWIYYTRCGGPQQSRAERPG
Bos_taurus       PQGSWPLVLT LIRGALMGAGFLLTYGLTWIYYTRCGGH-----
Ovis_aries       QQGSWPLVLT LIRGALMGAGFLLTYGLTWIYYTR-----
                  *****~::~***** ****
```

Alignments conducted with CLUSTAL (<https://www.ebi.ac.uk/Tools/msa/clustalo/>)

Asparagine (N) residues in bold denote potential N-glycosylation sites in human Siglec sequences.