

wherein

$X_1 = N$ and $X_2 = A$;

$X_1 = N$ and $X_2 = T$;

$X_1 = S$ and $X_2 = G$;

5 $X_1 = H$ and $X_2 = G$;

$X_1 = D$ and $X_2 = G$; or

$X_1 = H$ and $X_2 = A$.

In one aspect, the present disclosure refers to an antibody that binds human
10 CD3 which antibody comprises a heavy chain and light chain wherein said
heavy chain comprises a variable region that comprises the amino acid
sequence:

QVQLV QSGGG VVQPG RSLRL SCVAS GFTFS SYGMH WVRQA PGKGL EWVAA
IWYX₁X₂RKQDY ADSVK GRFTI SRDNS KNTLY LQMNS LRAED TAVYY
15 CTRGT GYNWF DPWGQ GTLVT VSS

with 0-5 amino acid insertions, deletions, substitutions, additions or a
combination thereof at one or more positions other than the position
indicated by X_1X_2 and other than the CDR regions, and leaving H35, Y102,
N103, and W104 unchanged;

20 wherein

$X_1 = N$ and $X_2 = A$;

and wherein said light chain comprises light chain CDR1 amino
acid sequence QSISSY, light chain CDR2 amino acid sequence AAS, and
light chain CDR3 amino acid sequence QQSYSTP, according to IMGT.

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In another example, the present disclosure refers to an antibody that binds
human CD3 which antibody comprises a heavy chain and light chain
wherein said heavy chain comprises a variable region that comprises the
amino acid sequence:

Claims

1. An antibody that binds human CD3 which antibody comprises a heavy chain and light chain wherein said heavy chain comprises a variable region that comprises the amino acid sequence:

QVQLV QSGGG VVQPG RSLRL SCVAS GFTFS SYGMH WVRQA PGKGL EWVAA
IWYX₁X₂RKQDY ADSVK GRFTI SRDNS KNTLY LQMNS LRAED TAVYY CTRGT
GYNWF DPWGQ GTLVT VSS

with 0-5 amino acid insertions, deletions, substitutions, additions or a combination thereof at one or more positions other than the position indicated by X₁X₂ and other than the CDR regions, and leaving H35, Y102, N103, and W104 unchanged;

wherein X₁ = N and X₂ = A;

and wherein said light chain comprises light chain CDR1 amino acid sequence QSISSY, light chain CDR2 amino acid sequence AAS, and light chain CDR3 amino acid sequence QQSYSTP, according to IMGT.

2. The antibody of claim 1, wherein the antibody comprises a heavy chain variable region that comprises the amino acid sequence

QVQLVQSGGGVVQPGRSLRLSCVASGFTFSSYGMHWVRQAPGKGLEWVA
AIWYNARKQEYIDSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCTRGTGYN
WFDPWGQGTLVTVSS.

3. The antibody of claim 1, wherein the antibody comprises a heavy chain variable region that comprises the amino acid sequence

QVQLVQSGGGVVQPGRSLRLSCVASGFTFSSYGMHWVRQAPGKGLEWVA
AIWYNARKQEYND SVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCTRGTG
YNWFDPWGQGTLVTVSS.

4. The antibody of claim 1, wherein the antibody comprises a heavy chain variable region that comprises the amino acid sequence

QVQLVQSGGGVVQPGRSLRLSCVASGFTFSSYGMHWVRQAPGKGLEWVAAI
WYNARKQEYRDSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCTRGTGY
NWFDPWGQGTLTVSS.

5. The antibody of claim 1, wherein the antibody comprises a heavy chain variable region that comprises the amino acid sequence

QVQLVQSGGGVVQPGRSLRLSCVASGFTFSSYGMHWVRQAPGKGLEWV
AAIWYNARKQDYADSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCTRGT
GYNWFDPWGQGTLTVSSQVQLVQSGGGVVQPGRSLRLSCVASGFTFSSYG
MHWVRQAPGKGLEWVAAIWYNARKQDYADSVKGRFTISRDN SKNTLYLQM
NSLRAEDTAVYYCTRGTGYNWYDPWGQGTLTVSS.

6. The antibody of claim 1, wherein the antibody comprises a heavy chain variable region that comprises the amino acid sequence

QVQLVQSGGGVVQPGRSLRLSCVASGFTFSSYGMHWVRQAPGKGLEWVAAI
WYNARKQEYLD SVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCTRGTGY
NWFDPWGQGTLTVSS.

7. The antibody of claim 1, wherein the antibody comprises a heavy chain variable region that comprises the amino acid sequence

QVQLVQSGGGVVQPGRSLRLSCVASGFTFSSYGMHWVRQAPGKGLEWVAQI
WYNARKQEYSD SVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCTRGTGY
NWFDPWGQGTLTVSS.

8. The antibody of claim 1, wherein the antibody comprises a heavy chain variable region that comprises the amino acid sequence

QVQLVQSGGGVVQPGRSLRLSCVASGFTFSSYGMHWVRQAPGKGLEWVAAI
WYNARKQEYSD SVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCTRGTGY
NWFDPWGQGTLTVSS.

- ~~9. The antibody of any one of claims 1-8, wherein said light chain is a light chain comprising a common light chain variable region.~~

~~10. The antibody of claim 9, wherein said common light chain variable region comprises an O12 / IgV κ 1-39 light chain variable region.~~

~~11. The antibody of claim 10, wherein said light chain variable region is a germline O12 / IgV κ 1-39*01 variable region.~~

~~12. The antibody of claim 11, wherein the light chain variable region comprises a kappa light chain IgV κ 1-39*01/IGJ κ 1*01 or IgV κ 1-39*01/IGJ κ 5*01.~~

~~13. The antibody of claim 12, wherein the light chain variable region comprises a germline kappa light chain IgV κ 1-39*01/IGJ κ 1*01 or IgV κ 1-39*01/IGJ κ 5*01.~~

914. The antibody of any one of claims 1-~~810~~, wherein said light chain comprises a light chain variable region comprisinginges the amino acid sequence
 DIQMT QSPSS LSASV GDRVT ITCRA SQSIS SYLNW YQQKP GKAPK LLIYA
 ASSLQ SGVPS RFSGS GSGTD FTLTI SSLQP EDFAT YYCQQ SYSTP PTFGQ
 GTKVE IK or DIQMT QSPSS LSASV GDRVT ITCRA SQSIS SYLNW YQQKP
 GKAPK LLIYA ASSLQ SGVPS RFSGS GSGTD FTLTI SSLQP EDFAT YYCQQ
 SYSTP PITFG QGTRL EIK with 0-5 amino acid insertions, deletions,
 substitutions, additions or a combination thereof, wherein the amino acid
 insertions, deletions, substitutions, additions or a combination thereof, are not in
 the CDR regions.

105. The antibody of any one of claims 1-914, which is a bispecific antibody.

116. The bispecific antibody of claim 105, comprising a H/L chain combination of any one of claims 1-914, and a H/L chain combination that binds a tumor-antigen.

127. The bispecific antibody of claim 116, wherein said H/L chain combination that binds a tumor-antigen binds CLEC12A.

138. The antibody or bispecific antibody of any one of claims 1-127, which is a human or humanized antibody.

149. The bispecific antibody of any one of claims 115-138, comprising two different immunoglobulin heavy chains with compatible heterodimerization domains.

1520. The bispecific antibody of claim 149, wherein said compatible heterodimerization domains are compatible immunoglobulin heavy chain CH3 heterodimerization domains.

1621. The bispecific antibody of any one of claims 105-1520, wherein said bispecific antibody is an IgG antibody with a mutant CH2 and/or lower hinge domain such that interaction of the bispecific IgG antibody to a Fc-gamma receptor is reduced.

1722. The bispecific antibody of claim 1621, wherein the mutant CH2 and/or lower hinge domain comprise an amino substitution at position 235 and/or 236.

1823. The bispecific antibody of claim 1621 or 1722, wherein the mutant CH2 and/or lower hinge domain comprise an L235G and/or G236R substitution.

1924. The bispecific antibody of any one of claims 105-1823, comprising a common light chain.

205. The antibody of any one of claims 1-1924, for use in the treatment of a subject in need thereof.