<210> 29
<211> 11
<212> PRT
<213> Homo sapiens

<400> 29

Cys Gln Ser Tyr Asp Thr Gly Leu Ser Gly Trp Val
1 5 10

<210> 30
<211> 11
<212> PRT
<213> Homo sapiens

<400> 30

Cys Gln Ser Tyr Asp Ser Ser Leu Ser Gly Ser Val
1 5 10

<210> 31
<211> 12
<212> PRT
<213> Homo sapiens

<400> 31

Cys Gln Ser Tyr Asp Ser Ser Leu Ser Gly Ser Trp Val
1 5 10

<210> 32
<211> 11
<212> PRT
<213> Homo sapiens

<400> 32

Cys Ala Ala Trp Asp Asp Ser Leu Ser Gly Trp Leu
1 5 10

<210> 33
<211> 11
<212> PRT
<213> Homo sapiens

<400> 33

Cys Ala Ala Trp Asp Asp Ser Leu Asn Gly Trp Leu
1 5 10

<210> 34
<211> 119
<212> PRT
<213> Homo sapiens

<400> 34

Gln Val Glu Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asp Asp Tyr

EPO - DG 2

03. 06. 2011

49

Claims:

1. Antibody 005-C04 or defined maturated variants thereof according to table 5 or antigen-binding fragments thereof which antagonize prolactin receptor-mediated signalling.

2. Antibody or antigen-binding fragments according to claim 1 whereby the antibodies antagonize prolactin receptor-mediate signaling in human and mouse.

3. Antibody or antigen-binding fragment according to claim 1 to 2, whereby
   a. the amino acid sequence of the HCDR1 is identical to SEQ ID NO: 6 in at least 7 of 8 amino acids, and
   b. the amino acid sequence of the HCDR2 is identical to SEQ ID NO: 12 in at least 14 of 19, more preferred 15 of 19, more preferred 16 of 19, more preferred 17 of 19, or even more preferred 18 of 19 amino acids, and
   c. the amino acid sequence of the HCDR3 is identical to SEQ ID NO: 17 in at least 8 of 11, more preferred 9 of 11, or even more preferred 10 of 11 amino acids, and
   d. the amino acid sequence of the LCDR1 is identical to SEQ ID NO: 23 in at least 12 of 14, or more preferred 13 of 14 amino acids, and
   e. the amino acid sequence of the LCDR2 is identical to SEQ ID NO: 28 in at least 4 of 7, more preferred 5 of 7, or even more preferred 6 of 7 amino acids, and
   f. the amino acid sequence of the LCR3 is identical to SEQ ID NO: 33 in at least 11 of 12 amino acids.

4. Antibody or antigen-binding fragment comprising the CDRs of the antibody of claim 1 to 3, whereby
   a. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 12 and 17 and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, and 33, or
   b. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 104, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 140, 33; or

c. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 105, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 139, 33; or

d. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 12, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 139, 33; or

e. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 12, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 141, 33; or

f. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 106, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 138, 33; or

g. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 106, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 140, 33; or

h. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 108, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 137, 28, 33; or

i. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 12, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 138, 33; or

j. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 114, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 28, 33; or

k. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 104, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 140, 33; or

l. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 111, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 139, 33; or

m. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 116, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 140, 33; or

n. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 118, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 138, 33; or

o. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 12, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 143; or

p. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 12, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 145; or

q. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 12, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 144; or

r. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 12, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 146; or

s. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 110, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 140, 33; or

t. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 110, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 139, 33; or

u. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 127, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 141, 33; or

v. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 127, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 141, 33; or

w. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 12, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 28, 33; or

x. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 117, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 140, 33; or

y. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 119, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 28, 33; or

z. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 115, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 138, 33; or

aa. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 12, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 33; or

bb. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 119, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 139, 33; or

cc. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 116, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 140, 33; or

dd. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 107, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 140, 33; or

ee. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 108, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 28, 33; or

ff. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 119, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 28, 33; or

gg. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 133, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 138, 33; or

hh. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 123, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 33; or

ii. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 120, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 33; or

jj. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 125, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 33; or

kk. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 134, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 33; or

ll. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 119, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 33; or

mm. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 128, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 33; or

nn. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 122, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 33; or

oo. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 124, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 33; or

pp. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 106, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 28, 33; or

qq. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 118, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 135, 28, 33; or

rr. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 120, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 142, 33; or

ss. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 117, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 140, 33; or

tt. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 130, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 139, 33; or

uu. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 111, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 140, 33; or

vv. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 114, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 141, 33; or

ww. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 116, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 141, 33; or

xx. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 119, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 140, 33; or

yy. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 112, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 141, 33; or

zz. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 116, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 140, 33; or

aaa. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 120, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 141, 33; or

bbb. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 116, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 138, 33; or

ccc. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 109, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 141, 33; or

ddd. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 120, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 141, 33; or

eee. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 105, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 138, 33; or

fff. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 132, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 138, 33; or

ggg. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 120, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 141, 33; or

hhh. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 129, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 140, 33; or

iii. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 117, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 140, 33; or

jjj. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 129, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 142, 33; or

kkk. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 104, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 142, 33; or

lll. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 107, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 142, 33; or

mmm. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 113, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 140, 33; or

nnn. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 131, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 142, 33; or

ooo. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 115, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 141, 33; or

ppp. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 119, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 141, 33; or

qqq. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 109, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 138, 33; or

rrr. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 121, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 142, 33; or

sss. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 126, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 142, 33; or

ttt. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 105, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 141, 33; or

uuu. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 108, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 138, 33.

5. Antibody or antigen-binding fragment according to claim 1 to 4, whereby the antibody

a. 005-C04 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 51, and an amino acid sequence according to SEQ ID NO: 39, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 57, and an amino acid sequence according to SEQ ID NO: 45,

b. 005-C04-10-3 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 375, and an amino acid sequence according to SEQ ID NO: 447, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 259, and an amino acid sequence according to SEQ ID NO: 187,

c. 005-C04-11-5 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 376, and an amino acid sequence according to SEQ ID NO: 448, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 260, and an amino acid sequence according to SEQ ID NO: 188,

d. 005-C04-18-10-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 377, and an amino acid sequence according to SEQ ID NO: 449, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 261, and an amino acid sequence according to SEQ ID NO: 189,

e. 005-C04-18-10-4 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 378, and an amino acid sequence according to SEQ ID NO: 450, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 262, and an amino acid sequence according to SEQ ID NO: 190,

f. 005-C04-19-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 379, and an amino acid sequence according to SEQ ID NO: 451, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 263, and an amino acid sequence according to SEQ ID NO: 191,

g. 005-C04-2-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 380, and an amino acid sequence according to SEQ ID NO: 452, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 264, and an amino acid sequence according to SEQ ID NO: 192,

h. 005-C04-2-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 381, and an amino acid sequence according to SEQ ID NO: 453, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 265, and an amino acid sequence according to SEQ ID NO: 193,

i. 005-C04-20-12-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 382, and an amino acid sequence according to SEQ ID NO: 454, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 266, and an amino acid sequence according to SEQ ID NO: 194,

j. 005-C04-20-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 383, and an amino acid sequence according to SEQ ID NO: 455, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 267, and an amino acid sequence according to SEQ ID NO: 195,

k. 005-C04-21-1 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 384, and an amino acid sequence according to SEQ ID NO: 456, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 268, and an amino acid sequence according to SEQ ID NO: 196,

l. 005-C04-21-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 385, and an amino acid sequence according to SEQ ID NO: 457, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 269, and an amino acid sequence according to SEQ ID NO: 197,

m. 005-C04-25-6 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO:

386, and an amino acid sequence according to SEQ ID NO: 458, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 270, and an amino acid sequence according to SEQ ID NO: 198,

n. 005-C04-29-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 387, and an amino acid sequence according to SEQ ID NO: 459, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 271, and an amino acid sequence according to SEQ ID NO: 199,

o. 005-C04-29-17-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 388, and an amino acid sequence according to SEQ ID NO: 460, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 272, and an amino acid sequence according to SEQ ID NO: 200,

p. 005-C04-29-17-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 389, and an amino acid sequence according to SEQ ID NO: 461, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 273, and an amino acid sequence according to SEQ ID NO: 201,

q. 005-C04-29-17-3 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 390, and an amino acid sequence according to SEQ ID NO: 462, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 274, and an amino acid sequence according to SEQ ID NO: 202,

r. 005-C04-29-17-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 391, and an amino acid sequence according to SEQ ID NO: 463, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 275, and an amino acid sequence according to SEQ ID NO: 203,

s. 005-C04-35-3 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO:

392, and an amino acid sequence according to SEQ ID NO: 464, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 276, and an amino acid sequence according to SEQ ID NO: 204,

t. 005-C04-36-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 393, and an amino acid sequence according to SEQ ID NO: 465, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 277, and an amino acid sequence according to SEQ ID NO: 205,

u. 005-C04-37-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 394, and an amino acid sequence according to SEQ ID NO: 466, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 278, and an amino acid sequence according to SEQ ID NO: 206,

v. 005-C04-37-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 395, and an amino acid sequence according to SEQ ID NO: 467, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 279, and an amino acid sequence according to SEQ ID NO: 207,

w. 005-C04-4-3-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 396, and an amino acid sequence according to SEQ ID NO: 468, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 280, and an amino acid sequence according to SEQ ID NO: 208,

x. 005-C04-40-4 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 397, and an amino acid sequence according to SEQ ID NO: 469, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 281, and an amino acid sequence according to SEQ ID NO: 209,

y. 005-C04-41-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO:

398, and an amino acid sequence according to SEQ ID NO: 470, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 282, and an amino acid sequence according to SEQ ID NO: 210,

z. 005-C04-42-1 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 399, and an amino acid sequence according to SEQ ID NO: 471, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 283, and an amino acid sequence according to SEQ ID NO: 211,

aa. 005-C04-44-25-1 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 400, and an amino acid sequence according to SEQ ID NO: 472, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 284, and an amino acid sequence according to SEQ ID NO: 212,

bb. 005-C04-45-1 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 401, and an amino acid sequence according to SEQ ID NO: 473, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 285, and an amino acid sequence according to SEQ ID NO: 213,

cc. 005-C04-46-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 402, and an amino acid sequence according to SEQ ID NO: 474, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 286, and an amino acid sequence according to SEQ ID NO: 214,

dd. 005-C04-46-1 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 403, and an amino acid sequence according to SEQ ID NO: 475, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 287, and an amino acid sequence according to SEQ ID NO: 215,

ee. 005-C04-47-3 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO:

404, and an amino acid sequence according to SEQ ID NO: 476, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 288, and an amino acid sequence according to SEQ ID NO: 216,

ff. 005-C04-48-1 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 405, and an amino acid sequence according to SEQ ID NO: 477, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 289, and an amino acid sequence according to SEQ ID NO: 217,

gg. 005-C04-5-5 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 406, and an amino acid sequence according to SEQ ID NO: 478, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 290, and an amino acid sequence according to SEQ ID NO: 218,

hh. 005-C04-50-28-3 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 407, and an amino acid sequence according to SEQ ID NO: 479, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 291, and an amino acid sequence according to SEQ ID NO: 219,

ii. 005-C04-50-28-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 408, and an amino acid sequence according to SEQ ID NO: 480, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 292, and an amino acid sequence according to SEQ ID NO: 220,

jj. 005-C04-51-29-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 409, and an amino acid sequence according to SEQ ID NO: 481, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 293, and an amino acid sequence according to SEQ ID NO: 221,

kk. 005-C04-52-29-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 410, and an amino acid sequence according to SEQ ID NO: 482, and

a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 294, and an amino acid sequence according to SEQ ID NO: 222,

ll. 005-C04-52-29-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 411, and an amino acid sequence according to SEQ ID NO: 483, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 295, and an amino acid sequence according to SEQ ID NO: 223,

mm. 005-C04-53-31-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 412, and an amino acid sequence according to SEQ ID NO: 484, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 296, and an amino acid sequence according to SEQ ID NO: 224,

nn. 005-C04-55-32-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 413, and an amino acid sequence according to SEQ ID NO: 485, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 297, and an amino acid sequence according to SEQ ID NO: 225,

oo. 005-C04-58-33-1 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 414, and an amino acid sequence according to SEQ ID NO: 486, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 298, and an amino acid sequence according to SEQ ID NO: 226,

pp. 005-C04-8-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 415, and an amino acid sequence according to SEQ ID NO: 487, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 299, and an amino acid sequence according to SEQ ID NO: 227,

qq. 005-C04-8-6 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 416, and an amino acid sequence according to SEQ ID NO: 488, and a variable

light chain domain with a nucleic acid sequence according to SEQ ID NO: 300, and an amino acid sequence according to SEQ ID NO: 228,

rr. 005-C04-9-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 417, and an amino acid sequence according to SEQ ID NO: 489, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 301, and an amino acid sequence according to SEQ ID NO: 229,

ss. 005-C04-L2-1-11-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 418, and an amino acid sequence according to SEQ ID NO: 490, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 302, and an amino acid sequence according to SEQ ID NO: 230,

tt. 005-C04-L2-1-11-3 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 419, and an amino acid sequence according to SEQ ID NO: 491, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 303, and an amino acid sequence according to SEQ ID NO: 231,

uu. 005-C04-L2-1-12-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 420, and an amino acid sequence according to SEQ ID NO: 492, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 304, and an amino acid sequence according to SEQ ID NO: 232,

vv. 005-C04-L2-1-12-4 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 421, and an amino acid sequence according to SEQ ID NO: 493, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 305, and an amino acid sequence according to SEQ ID NO: 233,

ww. 005-C04-L2-1-16-4 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 422, and an amino acid sequence according to SEQ ID NO: 494, and a variable light chain domain with a nucleic acid sequence according

to SEQ ID NO: 306, and an amino acid sequence according to SEQ ID NO: 234,

xx. 005-C04-L2-1-16-5 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 423, and an amino acid sequence according to SEQ ID NO: 495, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 307, and an amino acid sequence according to SEQ ID NO: 235,

yy. 005-C04-L2-1-2-3 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 424, and an amino acid sequence according to SEQ ID NO: 496, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 308, and an amino acid sequence according to SEQ ID NO: 236,

zz. 005-C04-L2-1-20-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 425, and an amino acid sequence according to SEQ ID NO: 497, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 309, and an amino acid sequence according to SEQ ID NO: 237,

aaa. 005-C04-L2-1-20-1 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 426, and an amino acid sequence according to SEQ ID NO: 498, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 310, and an amino acid sequence according to SEQ ID NO: 238,

bbb. 005-C04-L2-1-21-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 427, and an amino acid sequence according to SEQ ID NO: 499, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 311, and an amino acid sequence according to SEQ ID NO: 239,

ccc. 005-C04-L2-1-23-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 428, and an amino acid sequence according to SEQ ID NO: 500, and a variable light chain domain with a nucleic acid sequence according

to SEQ ID NO: 312, and an amino acid sequence according to SEQ ID NO: 240,

ddd. 005-C04-L2-1-25-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 429, and an amino acid sequence according to SEQ ID NO: 501, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 313, and an amino acid sequence according to SEQ ID NO: 241,

eee. 005-C04-L2-1-25-4 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 430, and an amino acid sequence according to SEQ ID NO: 502, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 314, and an amino acid sequence according to SEQ ID NO: 242,

fff. 005-C04-L2-1-25-5 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 431, and an amino acid sequence according to SEQ ID NO: 503, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 315, and an amino acid sequence according to SEQ ID NO: 243,

ggg. 005-C04-L2-1-25-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 432, and an amino acid sequence according to SEQ ID NO: 504, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 316, and an amino acid sequence according to SEQ ID NO: 244,

hhh. 005-C04-L2-1-28-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 433, and an amino acid sequence according to SEQ ID NO: 505, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 317, and an amino acid sequence according to SEQ ID NO: 245,

iii. 005-C04-L2-1-3-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 434, and an amino acid sequence according to SEQ ID NO: 506, and a variable light chain domain with a nucleic acid sequence according

to SEQ ID NO: 318, and an amino acid sequence according to SEQ ID NO: 246,

jjj. 005-C04-L2-1-31-4 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 435, and an amino acid sequence according to SEQ ID NO: 507, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 319, and an amino acid sequence according to SEQ ID NO: 247,

kkk. 005-C04-L2-1-31-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 436, and an amino acid sequence according to SEQ ID NO: 508, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 320, and an amino acid sequence according to SEQ ID NO: 248,

lll. 005-C04-L2-1-32-4 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 437, and an amino acid sequence according to SEQ ID NO: 509, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 321, and an amino acid sequence according to SEQ ID NO: 249 .

mmm. 005-C04-L2-1-33-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 438, and an amino acid sequence according to SEQ ID NO: 510, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 322, and an amino acid sequence according to SEQ ID NO: 250,

nnn. 005-C04-L2-1-36-6 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 439, and an amino acid sequence according to SEQ ID NO: 511, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 323, and an amino acid sequence according to SEQ ID NO: 251,

ooo. 005-C04-L2-1-38-3 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 440, and an amino acid sequence according to SEQ ID NO: 512, and a variable light chain domain with a nucleic acid sequence according

to SEQ ID NO: 324, and an amino acid sequence according to SEQ ID NO: 252,

ppp. 005-C04-L2-1-4-5 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 441, and an amino acid sequence according to SEQ ID NO: 513, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 325, and an amino acid sequence according to SEQ ID NO: 253,

qqq. 005-C04-L2-1-40-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 442, and an amino acid sequence according to SEQ ID NO: 514, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 326, and an amino acid sequence according to SEQ ID NO: 254,

rrr. 005-C04-L2-1-40-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 443, and an amino acid sequence according to SEQ ID NO: 515, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 327, and an amino acid sequence according to SEQ ID NO: 255,

sss. 005-C04-L2-1-42-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 444, and an amino acid sequence according to SEQ ID NO: 516, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 328, and an amino acid sequence according to SEQ ID NO: 256,

ttt. 005-C04-L2-1-47-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 445, and an amino acid sequence according to SEQ ID NO: 517, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 329, and an amino acid sequence according to SEQ ID NO: 257,

uuu. 005-C04-L2-1-48-3 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 446, and an amino acid sequence according to SEQ ID NO: 518, and a variable light chain domain with a nucleic acid sequence according

to SEQ ID NO: 330, and an amino acid sequence according to SEQ ID NO: 258.

6. Antibody and antigen-binding fragment according to claim 1 to 5, whereby the antibody consists of an antigen-binding region that binds specifically to or has a high affinity of for one or more regions of PRLR, whose amino acid sequence is depicted by SEQ ID NO: 70 and human polymorphic variants of SEQ ID NO: 70, amino acid position 1 to 210, whereby the affinity is at least 30 nM, more preferred with an affinity of less than about 10 nM, or even more preferred with an affinity of less than 1 nM.

7. Antibody of claim 1 to 6 wherein the heavy constant is a modified or unmodified IgG1, IgG2, IgG3 or IgG4.

8. An isolated nucleic acid sequence encoding an antibody or antigen-binding fragment according to any of the claims 1 to 7.

9. An isolated nucleic acid sequence according to claim 8, whereby the nucleic acid sequences are according to table 5.

10. Expression vector comprising a nucleic acid sequence of claim 8 and 9.

11. Host cell comprising the vector of claim 10 or a nucleic acid molecule of 8 and 9, whereby the host cell can be a higher eukaryotic host cell, such as a mammalian cell, a lower eukaryotic host cell, such as a yeast cell, and may be a prokaryotic cell, such as a bacterial cell.

12. A method of using the host cell of claim 11 to produce an antibody or antigen-binding fragment, comprising culturing the host cell of claim under suitable conditions and recovering said antibody.

13. An antibody or antigen-binding fragment produced by the method of claim 12.

14. An antibody or antigen-binding fragment of any of claims 1 to 7 that is purified to at least 95% homogeneity by weight.

15. An antibody or antigen-binding fragment according to claims 1 to 7 as a medicament.

16. A pharmaceutical composition comprising the antibody or antigen-binding fragment according to claim 1 to 7 and a pharmaceutically acceptable carrier comprising recipients and auxiliaries.

17. Kits comprising an antibody of claim 1 to 7 comprising a therapeutically effective amount of antibody 005-C04 or maturated variants thereof, packaged in a container, said kit optionally containing a second therapeutic agent, and further comprising a label attached to or packaged with the container, the label describing the contents of the container and providing indications and/or instructions regarding the use of the contents of the container to treat endometriosis, adenomyosis, benign breast disease and mastalgia, lactation inhibition, hyper- and normoprolactinemic hair loss, benign prostate hyperplasia, fibroids or for use in non-hormonal female contraception or to treat women under combined hormone therapy (i.e. estrogen plus progestin therapy) to inhibit mammary epithelial cell proliferation.

18. Antibody or antigen-binding fragment according to claim 1 to 7 for the treatment and/or prevention of endometriosis and adenomyosis (endometriosis interna).

19. Antibody or antigen-binding fragment according to claim 1 to 7 for female contraception.

20. Antibody or antigen-binding fragment according to claim 1 to 7 for the treatment of benign breast disease and mastalgia.

21. Antibody or antigen-binding fragment according 1 to 7 for the inhibition of lactation.

22. Antibody or antigen-binding fragment according to 1 to 7 for the treatment of benign prostate hyperplasia.

23. Antibody or antigen-binding fragment according to claim 1 to 7 for the treatment of hyper- and normoprolactinemic hair loss.

24. Antibody or antigen-binding fragment according to claim 1 to 7 for the treatment of women receiving combined hormone therapy.

25. Use of an antibody or antigen-binding fragment according to claim 24, whereby the combined hormone therapy is an estrogen plus progestin therapy.

26. Use of the antibodies according to claim 1 to 7 or in form of a pharmaceutical composition according to claim 16 comprising PRLR antibodies or antigen-binding fragment according to claim 1 to 7 for parenteral administration, whereby methods of parenteral delivery include topical, intra-arterial, intramuscular, subcutaneous, intramedullary, intrathecal, intraventricular, intravenous, intraperitoneal, intrauterine, vaginal, or intranasal administration.

27. Pharmaceutical composition according to claim 16 comprising PRLR antibodies or antigen-binding fragments or maturated variants thereof of claim 1 to 7, in combination with at least one other agent.

Claims:

1. Antibody 005-C04 or defined maturated variants thereof according to table 5 or antigen-binding fragments thereof which antagonize prolactin receptor-mediated signaling and which bind to epitopes of the extracellular domain of the prolactin receptor and human polymorphic variants thereof whereby the amino acid sequence of the extracellular domain of the prolactin receptor corresponds to SEQ ID NO: 70, and the nucleic acid sequence corresponds to SEQ ID NO: 71, whereby

a. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 12 and 17 and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, and 33, or

b. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 104, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 140, 33; or

c. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 105, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 139, 33; or

d. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 12, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 139, 33; or

e. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 12, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 141, 33; or

f. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 106, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 138, 33; or

g. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 106, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 140, 33; or

h. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 108, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 137, 28, 33; or

i. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 12, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 138, 33; or

j. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 114, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 28, 33; or

k. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 104, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 140, 33; or

l. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 111, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 139, 33; or

m. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 116, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 140, 33; or

n. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 118, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 138, 33; or

o. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 12, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 143; or

p. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 12, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 145; or

q. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 12, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 144; or

r. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 12, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 146; or

s. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 110, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 140, 33; or

t. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 110, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 139, 33; or

u. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 127, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 141, 33; or

v. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 127, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 141, 33; or

w. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 12, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 28, 33; or

x. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 117, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 140, 33; or

y. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 119, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 28, 33; or

z. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 115, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 138, 33; or

aa. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 12, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 33; or

bb. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 119, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 139, 33; or

cc. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 116, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 140, 33; or

dd. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 107, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 140, 33; or

ee. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 108, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 28, 33; or

ff. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 119, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 28, 33; or

gg. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 133, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 138, 33; or

hh. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 123, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 33; or

ii. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 120, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 33; or

jj. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 125, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 33; or

kk. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 134, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 33; or

ll. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 119, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 33; or

mm. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 128, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 33; or

nn. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 122, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 33; or

oo. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 6, 124, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 28, 33; or

pp. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 106, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 28, 33; or

qq. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 118, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 135, 28, 33; or

rr. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 120, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 142, 33; or

ss. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 117, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 140, 33; or

tt. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 130, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 139, 33; or

uu. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 111, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 140, 33; or

vv. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 114, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 141, 33; or

ww. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 116, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 141, 33; or

xx. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 119, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 140, 33; or

yy. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 112, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 141, 33; or

zz. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 116, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 140, 33; or

aaa. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 120, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 141, 33; or

bbb. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 116, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 138, 33; or

ccc. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 109, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 141, 33; or

ddd. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 120, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 141, 33; or

eee. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 105, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 138, 33; or

fff. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 132, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 138, 33; or

ggg. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 120, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 141, 33; or

hhh. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 129, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 140, 33; or

iii. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 117, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 140, 33; or

jjj. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 129, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 142, 33; or

kkk. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 104, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 142, 33; or

lll. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 107, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 142, 33; or

mmm. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 113, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 140, 33; or

nnn. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 131, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 142, 33; or

ooo. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 115, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 141, 33; or

ppp. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 103, 119, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 136, 141, 33; or

qqq. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 109, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 138, 33; or

rrr. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 121, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 142, 33; or

sss. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 126, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 142, 33; or

ttt. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 105, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 141, 33; or

uuu. the variable heavy chain contains the CDR sequences corresponding to SEQ ID NO: 102, 108, 17, and the variable light chain contains the CDR sequences corresponding to SEQ ID NO: 23, 138, 33.

2. Antibody or antigen-binding fragment according to claim 1, whereby the antibody

a. 005-C04 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 51, and an amino acid sequence according to SEQ ID NO: 39, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 57, and an amino acid sequence according to SEQ ID NO: 45,

b. 005-C04-10-3 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 375, and an amino acid sequence according to SEQ ID NO: 187and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 447, and an amino acid sequence according to SEQ ID NO: 259,

c. 005-C04-11-5 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 376, and an amino acid sequence according to SEQ ID NO: 188, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 448, and an amino acid sequence according to SEQ ID NO: 260,

d. 005-C04-18-10-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 377, and an amino acid sequence according to SEQ ID NO: 189, and a variable light chain domain with a nucleic acid sequence according

to SEQ ID NO: 449, and an amino acid sequence according to SEQ ID NO: 261,

e. 005-C04-18-10-4 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 378, and an amino acid sequence according to SEQ ID NO: 190, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 450, and an amino acid sequence according to SEQ ID NO: 262,

f. 005-C04-19-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 379, and an amino acid sequence according to SEQ ID NO: 191, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 451, and an amino acid sequence according to SEQ ID NO: 263,

g. 005-C04-2-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 380, and an amino acid sequence according to SEQ ID NO: 192, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 452, and an amino acid sequence according to SEQ ID NO: 264,

h. 005-C04-2-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 381, and an amino acid sequence according to SEQ ID NO: 193, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 453, and an amino acid sequence according to SEQ ID NO: 265,

i. 005-C04-20-12-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 382, and an amino acid sequence according to SEQ ID NO: 194, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 454, and an amino acid sequence according to SEQ ID NO: 266,

j. 005-C04-20-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 383, and an amino acid sequence according to SEQ ID NO: 195, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 455, and an amino acid sequence according to SEQ ID NO: 267,

k. 005-C04-21-1 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 384, and an amino acid sequence according to SEQ ID NO: 196, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 456, and an amino acid sequence according to SEQ ID NO: 268,

l. 005-C04-21-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 385, and an amino acid sequence according to SEQ ID NO: 197, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 457, and an amino acid sequence according to SEQ ID NO: 269,

m. 005-C04-25-6 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 386, and an amino acid sequence according to SEQ ID NO: 198, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 458, and an amino acid sequence according to SEQ ID NO: 270,

n. 005-C04-29-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 387, and an amino acid sequence according to SEQ ID NO: 199, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 459, and an amino acid sequence according to SEQ ID NO: 271,

o. 005-C04-29-17-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 388, and an amino acid sequence according to SEQ ID NO: 200, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 460, and an amino acid sequence according to SEQ ID NO: 272,

p. 005-C04-35-3 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 392, and an amino acid sequence according to SEQ ID NO: 204, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 464, and an amino acid sequence according to SEQ ID NO: 276,

q. 005-C04-36-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 393, and an amino acid sequence according to SEQ ID NO: 205, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 465, and an amino acid sequence according to SEQ ID NO: 277,

r. 005-C04-37-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 394, and an amino acid sequence according to SEQ ID NO: 206, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 466, and an amino acid sequence according to SEQ ID NO: 278,

s. 005-C04-37-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 395, and an amino acid sequence according to SEQ ID NO: 207, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 467, and an amino acid sequence according to SEQ ID NO: 279,

t. 005-C04-4-3-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 396, and an amino acid sequence according to SEQ ID NO: 208, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 468, and an amino acid sequence according to SEQ ID NO: 280,

u. 005-C04-40-4 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 397, and an amino acid sequence according to SEQ ID NO: 209, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 469, and an amino acid sequence according to SEQ ID NO: 281,

v. 005-C04-41-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 398, and an amino acid sequence according to SEQ ID NO: 210, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 470, and an amino acid sequence according to SEQ ID NO: 282,

w. 005-C04-42-1 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 399, and an amino acid sequence according to SEQ ID NO: 211, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 471, and an amino acid sequence according to SEQ ID NO: 283,

x. 005-C04-44-25-1 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 400, and an amino acid sequence according to SEQ ID NO: 212, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 472, and an amino acid sequence according to SEQ ID NO: 284,

y. 005-C04-45-1 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 401, and an amino acid sequence according to SEQ ID NO: 213, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 473, and an amino acid sequence according to SEQ ID NO: 285,

z. 005-C04-46-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 402, and an amino acid sequence according to SEQ ID NO: 214, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 474, and an amino acid sequence according to SEQ ID NO: 286,

aa. 005-C04-46-1 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 403, and an amino acid sequence according to SEQ ID NO: 215, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 475, and an amino acid sequence according to SEQ ID NO: 287,

bb. 005-C04-47-3 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 404, and an amino acid sequence according to SEQ ID NO: 216, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 476, and an amino acid sequence according to SEQ ID NO: 288,

cc. 005-C04-48-1 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 405, and an amino acid sequence according to SEQ ID NO: 217, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 477, and an amino acid sequence according to SEQ ID NO: 289,

dd. 005-C04-5-5 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 406, and an amino acid sequence according to SEQ ID NO: 218, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 478, and an amino acid sequence according to SEQ ID NO: 290,

ee. 005-C04-50-28-3 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 407, and an amino acid sequence according to SEQ ID NO: 219, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 479, and an amino acid sequence according to SEQ ID NO: 291,

ff. 005-C04-50-28-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 408, and an amino acid sequence according to SEQ ID NO: 220, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 480, and an amino acid sequence according to SEQ ID NO: 292,

gg. 005-C04-51-29-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 409, and an amino acid sequence according to SEQ ID NO: 221, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 481, and an amino acid sequence according to SEQ ID NO: 293,

hh. 005-C04-52-29-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 410, and an amino acid sequence according to SEQ ID NO: 222, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 482, and an amino acid sequence according to SEQ ID NO: 294,

ii. 005-C04-52-29-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 411, and an amino acid sequence according to SEQ ID NO: 223, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 483, and an amino acid sequence according to SEQ ID NO: 295,

jj. 005-C04-53-31-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 412, and an amino acid sequence according to SEQ ID NO: 224, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 484, and an amino acid sequence according to SEQ ID NO: 296,

kk. 005-C04-55-32-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 413, and an amino acid sequence according to SEQ ID NO: 225, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 485, and an amino acid sequence according to SEQ ID NO: 297,

ll. 005-C04-58-33-1 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 414, and an amino acid sequence according to SEQ ID NO: 226, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 486, and an amino acid sequence according to SEQ ID NO: 298,

mm. 005-C04-8-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 415, and an amino acid sequence according to SEQ ID NO: 227, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 487, and an amino acid sequence according to SEQ ID NO: 299,

nn. 005-C04-8-6 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 416, and an amino acid sequence according to SEQ ID NO: 228, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 488, and an amino acid sequence according to SEQ ID NO: 300,

oo. 005-C04-9-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 417, and an

amino acid sequence according to SEQ ID NO: 229, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 489, and an amino acid sequence according to SEQ ID NO: 301,

pp. 005-C04-L2-1-11-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 418, and an amino acid sequence according to SEQ ID NO: 230, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 490, and an amino acid sequence according to SEQ ID NO: 302,

qq. 005-C04-L2-1-11-3 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 419, and an amino acid sequence according to SEQ ID NO: 231, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 491, and an amino acid sequence according to SEQ ID NO: 303,

rr. 005-C04-L2-1-12-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 420, and an amino acid sequence according to SEQ ID NO: 232, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 492, and an amino acid sequence according to SEQ ID NO: 304,

ss. 005-C04-L2-1-12-4 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 421, and an amino acid sequence according to SEQ ID NO: 233, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 493, and an amino acid sequence according to SEQ ID NO: 305,

tt. 005-C04-L2-1-16-4 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 422, and an amino acid sequence according to SEQ ID NO: 234, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 494, and an amino acid sequence according to SEQ ID NO: 306,

uu. 005-C04-L2-1-16-5 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 423, and an amino acid sequence according to SEQ ID NO: 235, and

a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 495, and an amino acid sequence according to SEQ ID NO: 307,

vv. 005-C04-L2-1-2-3 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 424, and an amino acid sequence according to SEQ ID NO: 236, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 496, and an amino acid sequence according to SEQ ID NO: 308,

ww. 005-C04-L2-1-20-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 425, and an amino acid sequence according to SEQ ID NO: 237, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 497, and an amino acid sequence according to SEQ ID NO: 309,

xx. 005-C04-L2-1-20-1 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 426, and an amino acid sequence according to SEQ ID NO: 238, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 498, and an amino acid sequence according to SEQ ID NO: 310,

yy. 005-C04-L2-1-21-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 427, and an amino acid sequence according to SEQ ID NO: 239, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 499, and an amino acid sequence according to SEQ ID NO: 311,

zz. 005-C04-L2-1-23-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 428, and an amino acid sequence according to SEQ ID NO: 240, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 500, and an amino acid sequence according to SEQ ID NO: 312,

aaa. 005-C04-L2-1-25-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 429, and an amino acid sequence according to SEQ ID NO: 241, and

a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 501, and an amino acid sequence according to SEQ ID NO: 313,

bbb. 005-C04-L2-1-25-4 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 430, and an amino acid sequence according to SEQ ID NO: 242, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 502, and an amino acid sequence according to SEQ ID NO: 314,

ccc. 005-C04-L2-1-25-5 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 431, and an amino acid sequence according to SEQ ID NO: 243, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 503, and an amino acid sequence according to SEQ ID NO: 315,

ddd. 005-C04-L2-1-25-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 432, and an amino acid sequence according to SEQ ID NO: 244, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 504, and an amino acid sequence according to SEQ ID NO: 316,

eee. 005-C04-L2-1-28-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 433, and an amino acid sequence according to SEQ ID NO: 245, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 505, and an amino acid sequence according to SEQ ID NO: 317,

fff. 005-C04-L2-1-3-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 434, and an amino acid sequence according to SEQ ID NO: 246, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 506, and an amino acid sequence according to SEQ ID NO: 318,

ggg. 005-C04-L2-1-31-4 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 435, and an amino acid sequence according to SEQ ID NO: 247, and

a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 507, and an amino acid sequence according to SEQ ID NO: 319,

hhh. 005-C04-L2-1-31-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 436, and an amino acid sequence according to SEQ ID NO: 248, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 508, and an amino acid sequence according to SEQ ID NO: 320,

iii. 005-C04-L2-1-32-4 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 437, and an amino acid sequence according to SEQ ID NO: 249, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 509, and an amino acid sequence according to SEQ ID NO: 321 .

jjj. 005-C04-L2-1-33-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 438, and an amino acid sequence according to SEQ ID NO: 250, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 510, and an amino acid sequence according to SEQ ID NO: 322,

kkk. 005-C04-L2-1-36-6 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 439, and an amino acid sequence according to SEQ ID NO: 251, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 511, and an amino acid sequence according to SEQ ID NO: 323,

lll. 005-C04-L2-1-38-3 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 440, and an amino acid sequence according to SEQ ID NO: 252, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 512, and an amino acid sequence according to SEQ ID NO: 324,

mmm. 005-C04-L2-1-4-5 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 441, and an amino acid sequence according to SEQ ID NO: 253, and

a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 513, and an amino acid sequence according to SEQ ID NO: 325,

nnn. 005-C04-L2-1-40-2 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 442, and an amino acid sequence according to SEQ ID NO: 254, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 514, and an amino acid sequence according to SEQ ID NO: 326,

ooo. 005-C04-L2-1-40-7 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 443, and an amino acid sequence according to SEQ ID NO: 255, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 515, and an amino acid sequence according to SEQ ID NO: 327,

ppp. 005-C04-L2-1-42-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 444, and an amino acid sequence according to SEQ ID NO: 256, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 516, and an amino acid sequence according to SEQ ID NO: 328,

qqq. 005-C04-L2-1-47-0 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 445, and an amino acid sequence according to SEQ ID NO: 257, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 517, and an amino acid sequence according to SEQ ID NO: 329,

rrr. 005-C04-L2-1-48-3 comprises a variable heavy chain domain corresponding to a nucleic acid sequence according to SEQ ID NO: 446, and an amino acid sequence according to SEQ ID NO: 258, and a variable light chain domain with a nucleic acid sequence according to SEQ ID NO: 518, and an amino acid sequence according to SEQ ID NO: 330.

3. Antibody and antigen-binding fragment according to claim 1 and 2, whereby the antibody consists of an antigen-binding region that binds specifically to or has a

high affinity of for one or more regions of PRLR, whose amino acid sequence is depicted by SEQ ID NO: 70 and human polymorphic variants of SEQ ID NO: 70, amino acid position 1 to 210, whereby the affinity is at least 30 nM, more preferred with an affinity of less than about 10 nM, or even more preferred with an affinity of less than 1 nM.

4. Antibody of claim 1 to 3 wherein the heavy constant is a modified or unmodified IgG1, IgG2, IgG3 or IgG4.

5. An isolated nucleic acid sequence encoding an antibody or antigen-binding fragment according to any of the claims 1 to 4.

6. Expression vector comprising a nucleic acid sequence of claim 5.

7. Host cell comprising the vector of claim 6 or a nucleic acid molecule of 5, whereby the host cell can be a higher eukaryotic host cell, such as a mammalian cell, a lower eukaryotic host cell, such as a yeast cell, and may be a prokaryotic cell, such as a bacterial cell.

8. A method of using the host cell of claim 7 to produce an antibody or antigen-binding fragment, comprising culturing the host cell of claim under suitable conditions and recovering said antibody.

9. An antibody or antigen-binding fragment produced by the method of claim 8.

10. An antibody or antigen-binding fragment of any of claims 1 to 4 that is purified to at least 95% homogeneity by weight.

11. An antibody or antigen-binding fragment according to claims 1 to 4 for use as a medicament.

12. A pharmaceutical composition comprising the antibody or antigen-binding fragment according to claim 1 to 4 and a pharmaceutically acceptable carrier comprising recipients and auxiliaries.

13. Antibody or antigen-binding fragment according to claim 1 to 4 for use in the treatment and/or prevention of endometriosis and adenomyosis (endometriosis interna).

14. Antibody or antigen-binding fragment according to claim 1 to 4 for use in female contraception.

15. Antibody or antigen-binding fragment according to claim 1 to 4 for use in the treatment of benign breast disease and mastalgia.

16. Antibody or antigen-binding fragment according 1 to 4 for use in the inhibition of lactation.

17. Antibody or antigen-binding fragment according to 1 to 4 for use in the treatment of benign prostate hyperplasia.

18. Antibody or antigen-binding fragment according to claim 1 to 4 for use in the treatment of hyper- and normoprolactinemic hair loss.

19. Pharmaceutical composition according to claim 12 comprising PRLR antibodies or antigen-binding fragments or maturated variants thereof of claim 1 to 4 for parenteral administration, whereby methods of parenteral delivery include topical, intra-arterial, intramuscular, subcutaneous, intramedullary, intrathecal, intraventricular, intravenous, intraperitoneal, intrauterine, vaginal, or intranasal administration.

20. Pharmaceutical composition according to claim 12 comprising PRLR antibodies or antigen-binding fragments or maturated variants thereof of claim 1 to 4, in combination with at least one other agent.