WHAT IS CLAIMED:

1. An antibody or antigen-binding fragment thereof that binds to an epitope of human beta klotho and cynomolgus monkey beta klotho recognized by an antibody comprising a heavy chain variable region having the amino acid sequence of SEQ ID NO:25 and a light chain variable region having the amino acid sequence of SEQ ID NO:26.

2. The antibody or the antigen-binding fragment thereof of claim 1, wherein the antibody or the antigen-binding fragment thereof binds to an epitope comprising:

(i) at least one of amino acid residues 657, 701 and/or 703 of the human beta klotho;

(ii) at least two of amino acid residues 657, 701 and/or 703 of the human beta klotho; or

(iii) amino acid residues 657, 701 and 703 of the human beta klotho.

3. The antibody or the antigen-binding fragment thereof of claims 1 or 2, wherein the antibody or the antigen-binding fragment thereof induces FGF19-like signaling and/or FGF21-like signaling in a cell that expresses human beta klotho and an FGF receptor.

4. An antibody or an antigen-binding fragment thereof that binds to human beta klotho, wherein the antibody or the antigen-binding fragment thereof comprises: a heavy chain variable region (VH) comprising a VH CDR1, a VH CDR2, and a VH CDR3 from the amino acid sequence of SEQ ID NO:271, and a light chain variable region (VL) comprising a VL CDR1, a VL CDR2, and a VL CDR3 from the amino acid sequence of SEQ ID NO:276.

5. The antibody or the antigen-binding fragment thereof of claim 4, wherein:

(a) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:12, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:2, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:3, the VL CDR1 comprises the

amino acid sequence of SEQ ID NO:4, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:5, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:6;

(b) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:7, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:8, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:9; the VL CDR1 comprises the amino acid sequence of SEQ ID NO:10, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:11, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:6;

(c) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:1, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:2, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:3; the VL CDR1 comprises the amino acid sequence of SEQ ID NO:4, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:5, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:6;

(d) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:13, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:14, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:15; the VL CDR1 comprises the amino acid sequence of SEQ ID NO:16, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:11, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:17;

(e) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:18, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:19, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:20; the VL CDR1 comprises the amino acid sequence of SEQ ID NO:21, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:22, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:23; or

(f) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:1, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:24, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:3; the VL CDR1 comprises the amino acid sequence of SEQ ID NO:4, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:5, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:6.

6. The antibody or the antigen-binding fragment thereof of claim 4 or 5, wherein the VH has at least 80% sequence identity to SEQ ID NO:25.

7. The antibody or the antigen-binding fragment thereof of claim 4 or 5, wherein the VL has at least 80% sequence identity to SEQ ID NO:26.

8. The antibody or the antigen-binding fragment thereof of claim 4 or 5, wherein the VH has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:25 and the VL has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:26.

9. The antibody or the antigen-binding fragment thereof of claim 4 or 5, wherein the VH comprises the amino acid sequence of SEQ ID NO:25.

10. The antibody or the antigen-binding fragment thereof of claim 4 or 5, wherein the VL comprises the amino acid sequence of SEQ ID NO:26.

11. The antibody or the antigen-binding fragment thereof of claim 4, wherein the VH comprises the amino acid sequence of SEQ ID NO:25 and the VL comprises the amino acid sequence of SEQ ID NO:26.

12. The antibody or the antigen-binding fragment thereof of claim 4 or 5, wherein the VH has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:271 and the VL has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:276.

13. The antibody or the antigen-binding fragment thereof of claim 4, 5 or 12, wherein the VH comprises the amino acid sequence of SEQ ID NO:271.

14. The antibody or the antigen-binding fragment thereof of claim 4,5 or 12, wherein the VL comprises the amino acid sequence of SEQ ID NO:276.

15. An antibody or an antigen-binding fragment thereof that binds to human beta klotho, wherein the antibody or the antigen-binding fragment comprises

a VH comprising the amino acid sequence of SEQ ID NO:271 and a VL comprising the amino acid sequence of SEQ ID NO:276.

16. The antibody or the antigen-binding fragment thereof of claim 4 or 5, wherein the antibody comprises a heavy chain comprising amino acids 23-472 of the amino acid sequence of SEQ ID NO:317.

17. The antibody or the antigen-binding fragment thereof of claim 4 or 5, wherein the antibody comprises a light chain comprising amino acids 23-240 of the amino acid sequence of SEQ ID NO:319.

18. The antibody or the antigen-binding fragment thereof of claim 4 or 5, wherein the antibody comprises (i) a heavy chain that is 90% identical to amino acids 23-472 of the amino acid sequence of SEQ ID NO:317, and (ii) a light chain that is 90% identical to amino acids 23-240 of the amino acid sequence of SEQ ID NO:319.

19. An antibody that binds human beta klotho, wherein the antibody comprises a heavy chain comprising amino acids 23-472 of the amino acid sequence of SEQ ID NO:317 and a light chain comprising amino acids 23-240 of the amino acid sequence of SEQ ID NO:319.

20. An antibody or an antigen-binding fragment thereof that binds to human beta klotho, wherein the antibody or antigen-binding fragment thereof comprises:

(a) a VH comprising a VH CDR1, a VH CDR2, and a VH CDR3 from the amino acid sequence of SEQ ID NO:51, and a VL comprising a VL CDR1, a VL CDR2, and a VL CDR3 from the amino acid sequence of SEQ ID NO:52;

(b) a VH comprising a VH CDR1, a VH CDR2, and a VH CDR3 from the amino acid sequence of SEQ ID NO:77, and a VL comprising a VL CDR1, a VL CDR2, and a VL CDR3 from the amino acid sequence of SEQ ID NO:78;

(c) a VH comprising a VH CDR1, a VH CDR2, and a VH CDR3 from the amino acid sequence of SEQ ID NO:103, and a VL comprising a VL CDR1, a VL CDR2, and a VL CDR3 from the amino acid sequence of SEQ ID NO:104;

(d) a VH comprising a VH CDR1, a VH CDR2, and a VH CDR3 from the amino acid sequence of SEQ ID NO:129, and a VL comprising a VL CDR1, a VL CDR2, and a VL CDR3 from the amino acid sequence of SEQ ID NO:130;

(e) a VH comprising a VH CDR1, a VH CDR2, and a VH CDR3 from the amino acid sequence of SEQ ID NO:155, and a VL comprising a VL CDR1, a VL CDR2, and a VL CDR3 from the amino acid sequence of SEQ ID NO:156;

(f) a VH comprising a VH CDR1, a VH CDR2, and a VH CDR3 from the amino acid sequence of SEQ ID NO:181, and a VL comprising a VL CDR1, a VL CDR2, and a VL CDR3 from the amino acid sequence of SEQ ID NO:182;

(g) a VH comprising a VH CDR1, a VH CDR2, and a VH CDR3 from the amino acid sequence of SEQ ID NO:207, and a VL comprising a VL CDR1, a VL CDR2, and a VL CDR3 from the amino acid sequence of SEQ ID NO:208;

(h) a VH comprising a VH CDR1, a VH CDR2, and a VH CDR3 from the amino acid sequence of SEQ ID NO:233, and a VL comprising a VL CDR1, a VL CDR2, and a VL CDR3 from the amino acid sequence of SEQ ID NO:234; or

(i) a VH comprising a VH CDR1, a VH CDR2, and a VH CDR3 from the amino acid sequence of SEQ ID NO:259, and a VL comprising a VL CDR1, a VL CDR2, and a VL CDR3 from the amino acid sequence of SEQ ID NO:260.

21. The antibody or an antigen-binding fragment thereof of claim 20, wherein:

(a) (i) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:27, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:28, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:29, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:30, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:31, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:32;

(ii) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:33, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:34, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:35, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:36, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:37, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:32;

(iii) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:38, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:28, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:29, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:30, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:31, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:32;

(iv) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:39, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:40, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:41, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:42, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:37, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:43;

(v) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:44, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:45, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:46, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:47, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:48, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:49; or

(vi) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:27, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:50, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:29, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:30, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:31, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:32;

(b) (i) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:53, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:54, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:55, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:56, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:57, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:58;

(ii) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:59, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:60, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:61, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:62, the VL CDR2

comprises the amino acid sequence of SEQ ID NO:63, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:58;

(iii) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:64, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:54, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:55, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:56, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:57, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:58;

(iv) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:65, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:66, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:67, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:68, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:63, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:69;

(v) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:70, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:71, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:72, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:73, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:74, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:75; or

(vi) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:53, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:76, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:55, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:56, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:57, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:58;

(c) (i) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:79, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:80, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:81, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:82, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:83, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:84;

(ii) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:85, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:86,

the VH CDR3 comprises the amino acid sequence of SEQ ID NO:87, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:88, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:89, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:84;

(iii) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:90, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:80, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:81, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:82, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:83, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:84;

(iv) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:91, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:92, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:93, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:94, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:89, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:95;

(v) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:96, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:97, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:98, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:99, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:100, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:101; or

(vi) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:79, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:102, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:81, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:82, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:83 and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:84;

(d) (i) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:105, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:106, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:107, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:108, the VL CDR2 comprises the amino acid sequence of SEQ ID

NO:109, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:110;

(ii) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:111, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:112, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:113, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:114, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:115, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:110;

(iii) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:116, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:106, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:107, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:108, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:109, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:110;

(iv) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:117, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:118, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:119, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:120, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:115, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:121;

(v) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:122, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:123, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:124, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:125, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:126, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:127; or

(vi) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:105, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:128, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:107, the VL CDR1 comprises the amino acid sequence of SEQ ID

NO:108, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:109, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:110;

(e) (i) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:131, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:132, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:133, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:134, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:135, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:136;

(ii) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:137, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:138, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:139, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:140, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:141, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:136;

(iii) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:142, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:132, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:133, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:134, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:135, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:136;

(iv) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:143, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:144, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:145, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:146, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:141, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:147;

(v) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:148, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:149, the VH CDR3 comprises the amino acid sequence of SEQ ID

NO:150, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:151, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:152, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:153; or

(vi) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:131, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:154, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:133, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:134, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:135, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:136;

(f) (i) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:157, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:158, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:159, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:160, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:161, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:162;

(ii) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:163, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:164, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:165, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:166, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:167, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:162;

(iii) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:168, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:158, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:159, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:160, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:161, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:162;

(iv) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:169, the VH CDR2 comprises the amino acid sequence of SEQ ID

NO:170, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:171, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:172, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:167, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:173;

(v) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:174, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:175, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:176, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:177, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:178, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:179; or

(vi) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:157, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:180, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:159, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:160, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:161, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:162;

(g) (i) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:183, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:184, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:185, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:186, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:187, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:188;

(ii) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:189, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:190, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:191, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:192, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:193, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:188;

(iii) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:194, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:184, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:185, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:186, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:187, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:188;

(iv) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:195, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:196, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:197, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:198, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:193, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:199;

(v) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:200, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:201, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:202, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:203, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:204, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:205; or

(vi) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:183, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:206, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:185, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:186, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:187, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:188;

(h) (i) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:209, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:210, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:211, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:212, the VL CDR2 comprises the amino acid sequence of SEQ ID

NO:213, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:214;

(ii) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:215, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:216, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:217, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:218, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:219, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:214;

(iii) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:220, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:210, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:211, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:212, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:213, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:214;

(iv) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:221, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:222, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:223, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:224, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:219, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:225;

(v) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:226, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:227, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:228, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:229, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:230, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:231; or

(vi) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:209, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:232, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:211, the VL CDR1 comprises the amino acid sequence of SEQ ID

NO:212, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:213, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:214; or

(i) (i) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:235, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:236, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:237, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:238, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:239, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:240;

(ii) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:241, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:242, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:243, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:244, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:245, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:240;

(iii) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:246, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:236, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:237, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:238, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:239, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:240;

(iv) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:247, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:248, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:249, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:250, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:245, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:251;

(v) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:252, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:253, the VH CDR3 comprises the amino acid sequence of SEQ ID

NO:254, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:255, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:256, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:257; or

(vi) the VH CDR1 comprises the amino acid sequence of SEQ ID NO:235, the VH CDR2 comprises the amino acid sequence of SEQ ID NO:258, the VH CDR3 comprises the amino acid sequence of SEQ ID NO:237, the VL CDR1 comprises the amino acid sequence of SEQ ID NO:238, the VL CDR2 comprises the amino acid sequence of SEQ ID NO:239, and the VL CDR3 comprises the amino acid sequence of SEQ ID NO:240.

22. The antibody or the antigen-binding fragment thereof of claim 20 or 21, wherein:

(a) the VH has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:51 and the VL has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:52;

(b) the VH has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:77 and the VL has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:78;

(c) the VH has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:103 and the VL has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:104;

(d) the VH has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:129 and the VL has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:130;

(e) the VH has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:155 and the VL has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:156;

(f) the VH has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:181 and the VL has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:182;

(g) the VH has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:207 and the VL has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:208;

(h) the VH has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:233 and the VL has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:234; or

(i) the VH has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:259 and the VL has at least 80% sequence identity to the amino acid sequence of SEQ ID NO:260.

23. The antibody or the antigen-binding fragment thereof of claim 20 or 21, wherein:

(a) the VH comprises the amino acid sequence of SEQ ID NO:51 and the VL comprises the amino acid sequence of SEQ ID NO:52;

(b) the VH comprises the amino acid sequence of SEQ ID NO:77 and the VL comprises the amino acid sequence of SEQ ID NO:78;

(c) the VH comprises the amino acid sequence of SEQ ID NO:103 and the VL comprises the amino acid sequence of SEQ ID NO:104;

(d) the VH comprises the amino acid sequence of SEQ ID NO:129 and the VL comprises the amino acid sequence of SEQ ID NO:130;

(e) the VH comprises the amino acid sequence of SEQ ID NO:155 and the VL comprises the amino acid sequence of SEQ ID NO:156;

(f) the VH comprises the amino acid sequence of SEQ ID NO:181 and the VL comprises the amino acid sequence of SEQ ID NO:182;

(g) the VH comprises the amino acid sequence of SEQ ID NO:207 and the VL comprises the amino acid sequence of SEQ ID NO:208;

(h) the VH comprises the amino acid sequence of SEQ ID NO:233 and the VL comprises the amino acid sequence of SEQ ID NO:234; or

(i) the VH comprises the amino acid sequence of SEQ ID NO:259 and the VL comprises the amino acid sequence of SEQ ID NO:260.

24. The antibody or the antigen-binding fragment of any one of claims 1-8, 12-18, and 20-22, which is a humanized antibody.

25. The antibody or the antigen-binding fragment of any one of claims 1-18 and 20-24, which is a chimeric antibody.

26. The antibody or the antigen-binding fragment thereof of any one of claims 1-15 and 20-23, wherein the antigen-binding fragment is an Fab, Fab', F(ab')2, Fv, scFv, (scFv)2, single chain antibody molecule, or dual variable region antibody, or wherein the antibody is a bispecific antibody.

27. An isolated polynucleotide or polynucleotides encoding the antibody or the antigen-binding fragment thereof of any one of claims 1-18 and 20-26 or the antibody of claim 19.

28. An expression vector or vectors: (i) encoding the antibody an antigen-binding fragment thereof of any of claims 1-18 and 20-26 or the antibody of claim 19, or (ii) comprising the polynucleotide or polynucleotides of claim 27.

29. An isolated cell producing the antibody or the antigen-binding fragment thereof of any one of claims 1-18 and 20-26 or the antibody of claim 19.

30. An isolated cell comprising the polynucleotide or polynucleotides of claim 27 or the expression vector or vectors of claim 28.

31. A pharmaceutical composition comprising the antibody or the antigen-binding fragment thereof of any one of claims 1-18 and 20-26 or the antibody of claim 19, and a pharmaceutically acceptable carrier.

32. Use of the antibody or the antigen-binding fragment thereof of any one of claims 1-18 and 20-26 or the antibody of claim 19 in the manufacture of a medicament for treating Type 2 diabetes, gestational diabetes, insulin resistance, hyperinsulinemia, glucose intolerance, nonalcoholic steatohepatitis (NASH), non-alcoholic fatty liver disease (NAFLD), obesity, dyslipidemia, Type 1 diabetes, cardiovascular disease, or metabolic syndrome in a subject.

33. The use of claim 32, wherein the antibody or the antigen-binding fragment is to be used in combination with one or more additional therapeutic agents.

34. The use of claim 33, wherein the one or more additional therapeutic agents is selected from the group consisting of biguanides, sulphonylureas, thiazolidinediones, GLP-1 analogues, PPAR gamma agonists, dipeptidyl peptidase-4 (DPP-4) inhibitors, bromocriptine, bile acid sequestrants, insulin, alpha glucosidase inhibitors, metformin, SGLT-2 inhibitors, appetite suppression agents, and weight loss drugs.

35. The use of any one of claims 32-34, wherein the subject is human.

36. A method of making the antibody or antigen-binding fragment thereof of any one of claims 1 to 18 and 20-26 or the antibody of claim 19, comprising (a) culturing the cell of claim 29 or 30 and (b) isolating the antibody or antigen-binding fragment thereof.

37. The method of claim 36, further comprising formulating the antibody or antigen-binding fragment thereof as a sterile pharmaceutical composition.

38. An antibody or the antigen-binding fragment thereof of any one of claims 1-18 and 20-26 or the antibody of claim 19 for use in therapy.