

SUMMARY

In one aspect, there is provided an antibody or antigen binding fragment comprising: six complimentary determining regions (CDRs) of an anti-FXI antibody of the α FXI-18623p family, wherein an antibody of the α FXI-18623 family comprises a heavy chain (HC) variable region having the amino acid sequence shown in SEQ ID NO:28 or 29 and an LC variable region having the amino acid sequence shown in SEQ ID NO:30.

In another aspect, there is provided a composition comprising the antibody or antigen binding fragment as defined herein and a pharmaceutically acceptable carrier or diluent.

In another aspect, there is provided use of an antibody as defined herein in the manufacture of a medicament for treating a thromboembolic disorder or disease.

In another aspect, there is provided an antibody as defined herein for use in the treatment of a thromboembolic disorder or disease.

BRIEF DESCRIPTION OF THE INVENTION

The present invention provides human antibodies capable of selectively binding to coagulation Factor XI (anti-FXI antibodies) and inhibiting blood coagulation and associated

WHAT IS CLAIMED:

1. An antibody or antigen binding fragment comprising:
six complimentary determining regions (CDRs) of an anti-FXI antibody of the
 α FXI-18623p family,
5 wherein an antibody of the α FXI-18623 family comprises a heavy chain (HC)
variable region having the amino acid sequence shown in SEQ ID NO:28 or 29 and an LC
variable region having the amino acid sequence shown in SEQ ID NO:30.

2. The antibody or antigen binding fragment of claim 1, wherein the antibody comprises:

(a) an HC having a constant domain and a variable domain wherein the variable domain comprises a heavy chain comprising a heavy chain-complementary determining region (HC-CDR) 1 having the amino acid sequence shown in SEQ ID NO:8, a HC-CDR 2 having the amino acid sequence shown in SEQ ID NO:9, and a HC-CDR 3 having the amino acid sequence shown in SEQ ID NO:10; and

(b) an LC having a constant domain and a variable domain wherein the variable domain comprises a light chain-complementary determining region (LC-CDR) 1 having the amino acid sequence shown in SEQ ID NO:11, a LC-CDR 2 having the amino acid sequence shown in SEQ ID NO:12, and a LC-CDR 3 having the amino acid sequence shown in SEQ ID NO:13.

3. The antibody or antigen binding fragment of claim 2, wherein the antibody comprises an HC constant domain comprising the amino acid sequence shown in SEQ ID NO:16, 17, 18, or 19.

4. The antibody or antigen binding fragment of claim 2, wherein the antibody comprises an LC constant domain comprising the amino acid sequence shown in SEQ ID NO:20.

5. The antibody or antigen binding fragment of claim 1, wherein the antibody or antigen binding fragment comprises an HC variable domain having the amino acid sequence shown in SEQ ID NO:28 or 29 and an LC variable domain having the amino acid sequence shown in SEQ ID NO:30.

6. The antibody or antigen binding fragment of claim 1, wherein the antibody comprises a HC constant domain comprising the amino acid sequence shown in SEQ ID NO:16, 17, 18, or 19.

7. The antibody or antigen binding fragment of claim 1, wherein the antibody comprises a LC constant domain comprising the amino acid sequence shown in SEQ ID NO:20.

5 8. The antibody or antigen binding fragment of claim 1, wherein the antibody comprises:

an HC having the amino acid sequence shown in SEQ ID NO: 43, 55, 67, or 79;

and

10 an LC having the amino acid sequence shown in SEQ ID NO:31, wherein the antibody or antigen binding fragment binds the apple 3 domain of coagulation factor XI (FXI) and inhibits activation of FXI and/or Factor XIa-mediated activation of Factor IX.

15 9. The antibody or antigen binding fragment of claim 1, wherein the antibody comprises a heavy chain having the amino acid sequence shown in SEQ ID NO:43 and a light chain having the amino acid sequence shown in SEQ ID NO:31.

10. The antibody or antigen binding fragment of claim 1, wherein the antibody comprises a heavy chain having the amino acid sequence shown in SEQ ID NO: 67 and a light chain having the amino acid sequence shown in SEQ ID NO:31.

20 11. The antibody or antigen binding fragment of claim 1, wherein the antibody comprises a heavy chain variable domain (V_H) comprising the amino acid sequence shown in SEQ ID NO:29 and a light chain variable domain (V_L) comprising the amino acid sequence shown in SEQ ID NO:30.

25 12. The antibody or antigen binding fragment of claim 8, wherein the antibody further comprises a heavy chain constant domain having the amino acid sequence shown in SEQ ID NO:16 or 17 and a light chain constant domain having the amino acid sequence shown in SEQ ID NO:20.

13. The antibody or antigen binding fragment of claim 8, wherein the antibody further comprises a heavy chain constant domain of the IgG1 isotype that lacks N-glycosylation of the asparagine at position 297.

30 14. A composition comprising the antibody or antigen binding fragment of any one of claims 1-13 and a pharmaceutically acceptable carrier or diluent.

15. Use of an antibody of any one of claim 1-13 in the manufacture of a medicament for treating a thromboembolic disorder or disease.

5 16. An antibody of any one of claims 1-13 for use in the treatment of a thromboembolic disorder or disease.