CLAIMS

1. An anti-CD24 antibody comprising a heavy chain variable region comprising the sequence set forth in SEQ ID NO: 30 or 31 and a light chain variable region comprising the sequence set forth in SEQ ID NO: 35.

2. The anti-CD24 antibody of claim 1, wherein the antibody is a single chain antibody.

3. The anti-CD24 antibody of claim 1 or 2, wherein the heavy chain variable region comprises the sequence set forth in SEQ ID NO: 30.

4. The anti-CD24 antibody of claim 1 or 2, wherein the heavy chain variable region comprises the sequence set forth in SEQ ID NO: 31.

5. A bi-specific antibody comprising a first antibody domain comprising the anti-CD24 antibody of any one of claims 1-4, and a second antibody domain comprising a second antibody or antigen binding fragment thereof.

6. The bi-specific antibody of claim 5, wherein the second antibody domain attracts immune effector T cells to the cancer cells for cancer immunotherapy.

7. The bi-specific antibody of claim 5 or 6, wherein the second antibody or antigen binding fragment thereof binds to CD3.

8. The bi-specific antibody of claim 7, wherein the anti-CD3 antibody or antigen binding fragment thereof comprises the sequence set forth in SEQ ID NO: 18.

9. The bi-specific antibody of claim 5, wherein the second antibody or antigen binding fragment thereof binds TCR-α chain, TCR-β chain, TCR-γ chain, or TCR-δ chain.

10. The antibody or bi-specific antibody of any one of claims 1-9, wherein the antibody or bi-specific antibody has antibody-mediated cellular cytotoxicity (ADCC) activity.

11. The antibody or bi-specific antibody of claim 10, wherein the antibody or bi-specific antibody is engineered to have enhanced ADCC activity.

12. The antibody or bi-specific antibody of any one of claims 1-11 wherein the antibody or bi-specific antibody has antibody-mediated cellular phagocytosis (ADCP) activity.

13. The antibody or bi-specific antibody of claim 12, wherein the antibody or bi-specific antibody is engineered to have enhanced ADCP activity.

14. A chimeric antigen receptor, comprising a single chain antibody comprising the anti-CD24 antibody of any one of claims 1-4.

15. An antibody-drug conjugate (ADC) comprising the anti-CD24 antibody of any one of claims 1-4, bound to an effector moiety selected from the group consisting of a cytotoxic drug, a protein toxin, and a radionuclide.

16. A composition comprising the antibody, bi-specific antibody, chimeric antigen receptor, or ADC of any one of claims 1-15, and a second anti-cancer therapy.

17. An *ex vivo* method of diagnosis of malignant tissues or metastatic lesions, comprising use of the anti-CD24 antibody of any one of claims 1-4.

18. An *ex vivo* method of identifying circulating cancer cells, comprising use of the anti-CD24 antibody of any one of claims 1-4.

19. Use of the antibody, bi-specific antibody, chimeric antigen receptor, ADC, or composition of any one of claims 1-16 in the manufacture of a medicament for treating cancer.

20. The use of claim 19, wherein the cancer is lung cancer, ovarian cancer, breast cancer, liver cancer, brain cancer, cervical cancer, ovarian cancer, renal cancer, testicular cancer, prostate cancer, or neuroblastoma.