Claims:

1. Use of an agent that specifically targets one or more of the second, third, fourth, or fifth subdomains (EC2, EC3, EC4 and EC5, respectively) of soluble E-cadherin (sEcad) but not the first subdomain (EC1) of sEcad, in the preparation of a pharmaceutical formulation for treating a patient who has cancer, wherein the agent selectively kills tumor cells.

2. The use of claim 1, wherein the agent specifically targets EC4 and/or EC5.

3. The use of claim 2, wherein the agent specifically targets EC4.

4. The use of claim 2, wherein the agent specifically target EC5.

5. The use of any one of claims 1 to 4, wherein the agent is a protein scaffold.

6. The use of claim 5, wherein the protein scaffold is an antibody or a fragment thereof that specifically binds an epitope comprising amino acid residues in one or more of the EC2, EC3, EC4 or EC5 subdomains of sEcad but not in the EC1 subdomain of sEcad.

7. The use of claim 6, wherein the antibody is a humanized, chimeric, or human antibody.

8. The use of claim 6, wherein the antibody is a single chain antibody.

9. The use of claim 6, wherein the antibody is a monoclonal or polyclonal antibody.

10. The use of claim 6, wherein the antibody is of the immunoglobulin G (IgG) class or immunoglobulin M (IgM) class.

11. The use of any one of claims 1 to 10, wherein the agent is detectably labeled.

12. The use of any one of claims 1 to 11, wherein the ~~agent~~ therapeutically effective amount of the antibody, antigenic polypeptide, or expression vector selectively kills malignant E-cadherin-expressing cells but does not kill non-malignant cells to any clinically detrimental extent.

13. The use of claim 12, wherein the agent kills malignant E-cadherin-expressing cells by programmed cell death, growth arrest, anoikis, necrosis, or autophagy.

14. The use of any one of claims 1 to 13, wherein the agent is for administration in a pharmaceutical formulation that is free of cytotoxic amounts of any excipient.

15. The use of any one of claims 1 to 14, wherein the agent is delivered in a pharmaceutical formulation that:

(a) produces, upon administration to a patient, a serum level of the agent of about 1-10 mg/kg, or,

(b) produces, upon addition to a cell culture, a concentration of the agent of about 1-500 µg/mL of cell culture medium.

16. The use of claim 15, wherein the pharmaceutical agent produces a serum level of about 1-5 mg/kg in the patient or a concentration in the cell culture medium of about 1-400 µg/mL.

17. The use of any one of claims 1 to 16, wherein the agent is delivered in a pharmaceutical formulation by oral administration, intravenous administration, nasal or inhalation administration, intramuscular administration, intraperitoneal administration, transmucosal administration, or transdermal administration.

18. The use of any one of claims 1 to 17, further comprising the step of testing a biological sample from the patient and determining whether the sample includes an elevated level of sEcad or another predictive biomarker for cancer.

19. The use of claim 18, wherein the biological sample is a urine, saliva, cerebrospinal fluid, blood, or biopsy sample.

20. The use of claim 18, wherein the step is carried out before administering the agent and an elevated level of sEcad indicates that the patient is a good candidate for the treatment.

21. The use of claim 18, wherein the step is carried out at one or more times after administering the agent and a reduced level of sEcad indicates that the patient is responding well to the treatment.

22. The use of any one of claims 1 to 21, wherein the pharmaceutical formulation is formulated for administration in connection with a second cancer treatment.

23. The use of claim 22, wherein the second cancer treatment comprises administration of a chemotherapeutic agent, a radiation treatment, treatment with an antibody, or surgical intervention.

24. The use of any one of claims 1 to 23, wherein the cancer is within an epithelialized tissue.

25. The use of any one of claims 1 to 24, wherein the cancer is a cancer of the alimentary canal, central nervous system, breast, skin, reproductive system, lung, or urinary tract.

26. The use of claim 25, wherein the cancer of the alimentary canal is a cancer of the mouth, throat, esophagus, stomach, intestine, rectum or anus.

27. The use of claim 25, wherein the cancer of the skin is squamous cell carcinoma or melanoma.

28. The use of claim 25, wherein the cancer of the reproductive system is cervical cancer, uterine cancer, ovarian cancer, vulval or labial cancer, prostate cancer, testicular cancer, or cancer of the male genital tract.

29. Use of (a) an antigenic polypeptide that comprises an amino acid sequence from one or more of the EC2-EC5 subdomains of sEcad but excludes the EC1 subdomain, or an antigenically active fragment or other variant thereof or (b) an expression vector comprising a nucleic acid sequence encoding the antigenic polypeptide or the antigenically active fragment or other variant thereof, in the preparation of a pharmaceutical formulation for reducing the likelihood that a subject will develop cancer, wherein administration of the antigenic polypeptide or the expression vector selectively kills tumor cells.

30. The use of claim 29, wherein the antigenic polypeptide comprises an amino acid sequence from EC4 and/or EC5.

31. The use of claim 29, wherein the antigenic polypeptide comprises an amino acid sequence from EC4.

32. The use of claim 29, wherein the antigenic polypeptide comprises an amino acid sequence from EC5.

33. The use of claim 29, wherein the antigenic polypeptide elicits the production of antibodies that specifically bind sEcad but do not bind E-cadherin expressed by non-malignant cells in the subject.

34. The use of claim 29, wherein the antigenic polypeptide or the expression vector is delivered in a pharmaceutical formulation by oral administration, intravenous administration, nasal or inhalation administration, intramuscular administration, intraperitoneal administration, transmucosal administration, or transdermal administration.

35. The use of any one of claims 29 to 34, wherein the cancer is within an epithelialized tissue.

36. The use of any one of claims 29 to 34, wherein the cancer is a cancer of the alimentary canal, central nervous system, breast, skin, reproductive system, lung, or urinary tract.

37. The use of claim 36, wherein the cancer of the alimentary canal is a cancer of the mouth, throat, esophagus, stomach, intestine, rectum or anus.

38. The use of claim 36, wherein the cancer of the skin is squamous cell carcinoma or melanoma.

39. The use of claim 36, wherein the cancer of the reproductive system is cervical cancer, uterine cancer, ovarian cancer, vulval or labial cancer, prostate cancer, testicular cancer, or cancer of the male genital tract.

40. A pharmaceutically acceptable composition comprising a therapeutically effective amount of (a) an antibody that specifically binds an epitope comprising amino acid residues in one or more of the EC2, EC3, EC4 or EC5 subdomains of sEcad but not in the EC1 subdomain of sEcad; (b) an antigenic polypeptide that comprises an amino acid sequence from one or more of the EC2-EC5 subdomains of sEcad but excludes the EC1 subdomain, or an antigenically active fragment or other variant thereof; or (c) an expression vector comprising a nucleic acid sequence encoding the antigenic polypeptide or the antigenically active fragment or other variant thereof, wherein the therapeutically effective amount of the antibody, antigenic polypeptide, or expression vector selectively kills tumor cells.

~~41. A method for identifying an epitope in an sEcad, the method comprising:~~
~~(a) providing a polypeptide comprising sEcad or a fragment or other variant thereof;~~
~~(b) administering the polypeptide to an animal;~~
~~(c) isolating antibodies produced by the animal in response to the polypeptide; and~~

~~(d) exposing cancerous cells to the antibodies or to a monoclonal antibody generated therefrom, wherein the death of the cancerous cells indicates that the polypeptide comprises an epitope of sEcad that can be targeted or used as an agent in cancer treatment, prophylaxis, or imaging.~~

~~42. The method of claim 41, wherein the polypeptide comprises an amino acid sequence from one or more of the EC2, EC3, EC4, or EC5 subdomains of sEcad but excludes amino acid sequence from the EC1 subdomain of sEcad.~~

~~43. The method of claim 42, wherein the polypeptide comprises an amino acid sequence from one or more of EC4 or EC5.~~

~~44. The method of claim 43, wherein the polypeptide comprises an amino acid sequence confined to EC4.~~

~~45. The method of claim 43, wherein the polypeptide comprises an amino acid sequence confined to EC5.~~

41. The pharmaceutically acceptable composition of claim 40 further comprising a non-cytotoxic amount of an excipient.

42. The pharmaceutically acceptable composition of claim 40 further comprising one or more of the following immunoglobulins: abciximab; the Fab fragment of the chimeric human-murine monoclonal antibody 7E3; adalimumab; alemtuzumab; basiliximab; bevacizumab; certuximab; certolizumab; daclizumab; eculizumab; efalizumab; gemtuzumab; ibritumomab tiuxetan; infliximab; muromonab-CD3; natalizumab; omalizumab; palivizumab; panitumumab; ranibizumab; rituximab; tositumomab; trastuzumab; or a bioequivalent thereof.