of a polypeptide component of a bioluminescent complex, or a peptide component of a bioluminescent complex. In one aspect, the present disclosure refers to a composition comprising a dried formulation of: a luminogenic substrate; and a target analyte binding agent comprising a first target analyte binding element and a polypeptide component of a bioluminescent complex comprising at least 70% sequence identity with SEQ ID NO: 9, wherein the composition is capable of being reconstituted in a solutions, and wherein when reconstituted, the polypeptide component is capable of forming a bioluminescent analyte detection complex when the polypeptide component associates with a peptide component of the bioluminescent complex having 100% sequence identity to SEQ ID NO: 10 and bound to a second target analyte binding element in the presence of the target analyte.

[0006] In accordance with these examples, the polypeptide component of the target analyte binding agent comprises at least 60% sequence identity with SEQ ID NO: 5; at least 60% sequence identity with SEQ ID NO: 9; or at least 60% sequence identity with SEQ ID NO: 12.

[0007] In some examples, the peptide component of the target analyte binding agent comprises at least 60% sequence identity with SEQ ID NO: 10; at least 60% sequence identity with SEQ ID NO: 11; at least 60% sequence identity with SEQ ID NO: 13; or at least 60% sequence identity with SEQ ID NO: 14.

[0008] In some examples, the composition comprises a complementary peptide or polypeptide component of the bioluminescent complex, wherein the target analyte binding agent and the complementary peptide or polypeptide component of the bioluminescent complex form a bioluminescent analyte detection complex in the presence of a target analyte.

[0009] In some examples, the composition that comprises the luminogenic substrate and the target analyte binding agent are combined in a dried formulation, and the complementary peptide or polypeptide component of the bioluminescent complex comprises a liquid formulation, wherein the liquid formulation is added to the dried formulation and forms the bioluminescent analyte detection complex in the presence of the target analyte upon rehydration.

[0010] In some examples, the composition comprising the luminogenic substrate, the target analyte binding agent, and the complementary peptide or polypeptide component of the bioluminescent complex are combined in a dried formulation, wherein the dried formulation forms the bioluminescent analyte detection complex in the presence of the target analyte upon rehydration.

[0011] In some examples, the complementary peptide or polypeptide component comprises a second target analyte binding element that forms the bioluminescent analyte detection complex in the presence of the target analyte.

[0012] In some examples, the polypeptide component of the target analyte binding agent comprises at least 60% sequence identity with SEQ ID NO: 6, and wherein the complementary peptide or polypeptide component of the bioluminescent complex comprises at least 60% sequence identity with SEQ ID NO: 10.

CLAIMS

What is claimed is:

1. A composition comprising a dried formulation of:
a luminogenic substrate; and
a target analyte binding agent comprising a first target analyte binding element and a polypeptide component of a bioluminescent complex comprising at least 70% sequence identity with SEQ ID NO: 9, wherein the composition is capable of being reconstituted in a solutions, and wherein when reconstituted, the polypeptide component is capable of forming a bioluminescent analyte detection complex when the polypeptide component associates with a peptide component of the bioluminescent complex having 100% sequence identity to SEQ ID NO: 10 and bound to a second target analyte binding element in the presence of the target analyte.

2. The composition of claim 1, wherein the target analyte is a target antibody.

3. The composition of claim 1, wherein the target analyte binding element is selected from the group consisting of an antibody, a polyclonal antibody, a monoclonal antibody, a recombinant antibody, an antibody fragment, protein A, an Ig binding domain of protein A, protein G, an Ig binding domain of protein G, protein A/G, an Ig binding domain of protein A/G, protein L, a Ig binding domain of protein L, protein M, an Ig binding domain of protein M, an oligonucleotide probe, a peptide nucleic acid, a DARPin, an aptamer, an affimer, a protein domain, and a purified protein.

4. The composition of claim 1, wherein the luminogenic substrate is selected from coelenterazine, coelenterazine-h, coelenterazine-h-h, furimazine, and other coelenterazine analogs or derivatives.

5. The composition of claim 1, further comprising a polymer selected from pullulan, trehalose, maltose, cellulose, dextran, hydroxypropyl β-cyclodextrin, a cyclic saccharide

polymer, a block copolymer, polystyrene, poly(meth)acrylate, and a combination of any thereof.

6. The composition of claim 1, wherein the composition further comprises a buffer, a surfactant, a reducing agent, a salt, a radical scavenger, a chelating agent, a protein, or any combination thereof.