[0026] In another embodiment, the invention provides an isolated polypeptide comprising an extended recombinant polypeptide that is linked to an affinity purification tag via a proteolytic cleavage site having a sequence selected from SASRSA or SASXSA where X is R or K.

[0027] In another embodiment, the invention provides an isolated polypeptide comprising a polypeptide comprising an XTEN that is linked at its N-terminus to a first affinity purification tag via a proteolytic cleavage site having a sequence selected from SASRSA or SASXSA where X is R or K, and at its C-terminus to a second affinity purification tag via a proteolytic cleavage site having a sequence selected from SASRSA or SASXSA where X is R or K.

[0028] In another aspect, the invention relates to a method of treating a condition in a subject with an XTEN-payload conjugate composition. In one embodiment, the invention provides a method of treating a condition in a subject comprising comprising administering an effective amount of the conjugate of any one of the XTEN-payload embodiments described herein to a subject in need thereof. In another embodiment, the invention provides a method of treating a condition in a subject comprising comprising administering an effective amount of the conjugate of the group consisting of the conjugates set forth in Table 21 to a subject in need thereof. In the foregoing embodiments of this paragraph, the condition to be treated includes, but is not limited to, the conditions set forth in Table 13. In another embodiment, the invention provides a pharmaceutical composition comprising any of the XTEN-payload conjugate embodiments described herein and a pharmaceutically acceptable carrier for use in a treatment regimen, the regimen comprising administering two or more consecutive doses of the pharmaceutical composition.

[0029] In one embodiment, the invention provides the use of a conjugate of any one of the XTEN-payload embodiments described herein for the preparation of a medicament for treatment of a condition selected from the group of conditions set forth in Table 16. In another embodiment, the invention provides a pharmaceutical composition for treatment of a condition selected from the group of conditions set forth in Table 16. comprising an effective amount of a conjugate of any one of the XTEN-payload embodiments described herein.

[0030] In another embodiment, the invention provides a composition having the structure set forth in FIG. 117.

[0031] It is specifically contemplated that the conjugate embodiments can exhibit one or more or any combination of the properties disclosed herein. In addition, any of the XTEN compositions disclosed herein can be utilized in any of the methods disclosed herein.

[0031a] In another aspect, the invention relates to a composition comprising an extended recombinant polypeptide (XTEN), wherein said XTEN comprises a sequence selected from GGSPAGSCTSP, GASASCAPSTG, TAEAAGCGTAEAA, and GPEPTCPAPSG, and wherein said XTEN exhibits at least 90% sequence identity to a sequence set forth in Table 3.

INCORPORATION BY REFERENCE

[0032] All publications, patents, and patent applications mentioned in this specification are herein incorporated by reference to the same extent as if each individual publication, patent, or patent application was specifically and individually indicated to be incorporated by reference.

CLAIMS

1. A composition comprising an extended recombinant polypeptide (XTEN), wherein said XTEN comprises a sequence selected from GGSPAGSCTSP, GASASCAPSTG, TAEAAGCGTAEAA, and GPEPTCPAPSG, and wherein said XTEN exhibits at least 90% sequence identity to a sequence set forth in Table 3.
2. The composition of claim 1, wherein the XTEN is conjugated to a molecule of a first cross-linker, wherein the first cross-linker is a cross-linker set forth in Table 13, an alkyne reactant set forth in Table 15, or an azide reactant set forth in Table 15.
3. The composition of claim 2, wherein the molecule of the first cross-linker is conjugated to the XTEN at:
    a. an alpha-amino group of an N-terminal amino acid residue of the XTEN; or
    b. a thiol group of a cysteine residue of the XTEN.
4. The composition of claim 2, wherein the first cross-linker is selected from the group consisting of an N-maleimide, an iodoacetyl reagent, a pyridyl disulfide reagent, 3-propargyloxypropanoic acid, $(oxyethyl)_n$-acetylene where n is 1-10, dibenzylcyclooctyne (DBCO), cyclooctyne (COT), 3-azide-propionic acid, 6-azide-hexanoic acid, and $(oxyethyl)_n$-azide where n is 1-10.
5. The composition of claim 3, wherein the molecule of the first cross-linker is conjugated to the thiol group of the cysteine residue of the XTEN, and wherein the XTEN is conjugated to a molecule of a second cross-linker at an alpha amino-group of an N-terminal amino acid of the XTEN, wherein the second cross-linker is a cross-linker set forth in Table 13, an alkyne reactant of Table 15, or an azide reactant of Table 15.
6. The composition of claim 2, wherein the XTEN is conjugated to one or more molecules of the first cross-linker, wherein the one or more molecules of the first cross-linker are conjugated to each cysteine residue of the XTEN.
7. The composition of claim 2, further comprising a first payload conjugated to the molecule of the first cross-linker via a single atom of the first payload, wherein the single atom is selected from the group consisting of carbon, nitrogen, oxygen, and sulfur.
8. The composition of claim 7, wherein the first payload is selected from the group consisting of payloads of Tables 11, 12, 18, and 21.

9. The composition of claim 7, further comprising a second payload, wherein the second payload is linked to a molecule of a second cross-linker conjugated to an N-terminus of the XTEN, and wherein the second cross-linker is an alkyne reactant or an azide reactant set forth in Table 15.
10. The composition of claim 9, wherein the second payload is selected from the group consisting of targeting moieties of Tables 18 and 21.
11. The composition of claim 1, wherein the XTEN is selected from the group consisting of Seg 172, Seg 173, Seg 174, Seg 175, Seg 176, Seg 177, Seg 181, Seg 184, Seg 185, Seg 187, Seg 188, Seg 189, Seg 190, and Seg 191.
12. The composition of claim 11, wherein the XTEN is conjugated to a molecule of a first cross-linker at a thiol group of a cysteine residue of the XTEN.
13. The composition of claim 11, wherein the XTEN is conjugated to one or more molecules of a first cross-linker, and wherein the one or more molecules of the first cross-linker are conjugated to each cysteine residue of the XTEN.
14. The composition of claim 12 or claim 13, wherein the first cross-linker is a cross-linker set forth in Table 13, an alkyne reactant set forth in Table 15, or an azide reactant set forth in Table 15.
15. The composition of claim 14, further comprising a first payload conjugated to the molecule of the first cross-linker via a single atom of the first payload, wherein the single atom is selected from the group consisting of carbon, nitrogen, oxygen, and sulfur.
16. The composition of claim 15, wherein the first payload is selected from the group consisting of payloads set forth in Tables 11, 12, 18, and 21.
17. The composition of claim 15, further comprising a second payload, wherein the second payload is linked to a molecule of a second cross-linker conjugated to an N-terminus of the XTEN, and wherein the second cross-linker is an alkyne reactant or an azide reactant set forth in Table 15.
18. The composition of claim 17, wherein the second payload is selected from the group consisting of targeting moieties of Tables 18 and 21.