reported. Recombinant expression of proteins in a disulfide-bridged, two-chain form is reported in WO2005/076902 and US 2008/0103098. In WO 2009/068649 antigen-binding constructs are reported.

Summary ~~of the Invention~~

Herein are reported repeat-motif-molecule conjugates in glycosylated form, i.e. expressed in mammalian cells.

The disclosure relates to~~Therefore, a first aspect as reported herein is~~ a glycosylated repeat-motif-molecule conjugate of the following formula

(repeat-motif-molecule – $linker_n$)$_m$ – (conjugation partner)$_q$ – ($linker_o$ – repeat-motif-molecule)$_p$

wherein n and o are independently of each other and independently for each value of m and p and q integer values of 0 or 1, and m and p are independently of each other integer values of 0 or 1 or 2 or 3 or 4 or 5 or 6 or 7, and q is independently of the values of n, m, o, and p an integer value of 0 or 1,

and wherein the repeat-motif-molecule conjugate comprises at least one oligosaccharide attached to a glycosylation site,

and wherein at least m=q=1 or p=q=1.

In a first aspect, there is provided a glycosylated repeat-motif-molecule conjugate of the following formula

(repeat-motif-molecule – $linker_n$)$_m$ – (conjugation partner)$_q$ – ($linker_o$ – repeat-motif-molecule)$_p$

wherein n=1, m=1, q=1, p=0,

wherein the repeat-motif-molecule conjugate comprises at least one oligosaccharide attached to a glycosylation site, and

wherein the conjugation partner comprises an engineered antibody heavy chain hinge region with three cysteine residues, and

wherein the repeat-motif-molecule is an ankyrin-repeat-motif-molecule.

In a second aspect, there is provided a glycosylated repeat-motif-molecule conjugate of the following formula

(repeat-motif-molecule – $linker_n)_m$ – $(conjugation\ partner)_q$ – $(linker_o$ – repeat-motif-$molecule)_p$

wherein n=0, m=1, q=1, p=0,

wherein the repeat-motif-molecule conjugate comprises at least one oligosaccharide attached to a glycosylation site, and

wherein the conjugation partner comprises an engineered antibody heavy chain hinge region with three cysteine residues, and

wherein the repeat-motif-molecule is an ankyrin-repeat-motif-molecule.

In one embodiment the repeat-motif-molecule is an ankyrin-repeat-motif-molecule or a leucine-rich-repeat-motif-molecule. In a further embodiment the ankyrin-repeat-motif-molecule has an amino acid sequence of SEQ ID NO: 4 or a variant thereof. In another embodiment the linker is a peptidic linker selected from SEQ ID NO: 14 and SEQ ID NO: 25 to SEQ ID NO: 33. In one embodiment the conjugation partner is a multimerizing conjugation partner. In still a further embodiment the multimerizing conjugation partner is selected from natural or engineered pairs of heavy chain CH2 and CH3 domains, from natural or engineered pairs of heavy chain CH1 domain and light chain constant domain, from natural or engineered heavy chain hinge region, from natural or engineered sequences of heavy chain hinge region and CH2 and CH3 domains, from leucine zipper domain, from isoleucine zipper domain, from 4-helix-bundles, and from p53 tetramerization domain, or from combinations thereof.

In one embodiment the conjugate according to the ~~invention~~disclosure is characterized in that it has the formula of

$((\text{repeat-motif-molecule} - \text{linker}_n)_m - (\text{conjugation partner})_q - (\text{linker}_o - \text{repeat-motif-molecule})_p)_r$

with

i) n=1, m=1, q=1, p=0, r=1, or
ii) n=1, m=1, q=1, p=0, r=2, or
iii) n=0, m=1, q=1, p=0, r=1, or
iv) n=0, m=1, q=1, p=0, r=2, or
v) m=0, o=1, q=1, p=1, r=1, or
vi) m=0, o=1, q=1, p=1, r=2, or
vii) m=0, o=0, q=1, p=1, r=1, or
viii) m=0, o=0, q=1, p=1, r=2, or
ix) m=1, n=0, o=1, q=1, p=1, r=1, or
x) m=1, n=0, o=1, q=1, p=1, r=2, or
xi) m=1, n=1, o=1, q=1, p=1, r=1, or
xii) m=1, n=1, o=1, q=1, p=1, r=1,

wherein the conjugation partner is selected from natural or engineered pairs of heavy chain CH2 and CH3 domains, natural or engineered pairs of heavy chain CH1 domain and light chain constant domain, natural or engineered heavy chain hinge regions, natural or engineered sequences of heavy chain hinge region and CH2 and CH3 domains,

and wherein the repeat-motif-molecule is an ankyrin-repeat-motif-molecule.

In a further embodiment the conjugate is characterized in that the at least one oligosaccharide is a mixture of oligosaccharides obtained by the expression of the conjugate in CHO cells or HEK293 cells.

In one embodiment the conjugate is characterized in that

m=0, q=1, p=1, and o=0 or o=1, and r=1 or 2,