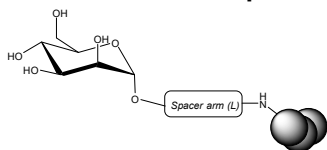


Description

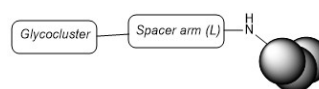
Neoglycoproteins are **glycosylated bovine serum albumin (BSA)** molecules. In order to improve accessibility and avidity of a carbohydrate-binding proteins, a new version of neoglycoproteins containing spacer arm (*i.e.* an alkyl spacer) were developed and proposed either with monosaccharides or with glycoclusters.

- Standard monosaccharide spacer neoglycoproteins:



Description	Reference
α DFuc-BSA	NeoFL
α DGal-BSA	NeoGaL
α Galactofuranose-BSA	NeoGafL
α NeuGc-BSA	NeoNeuGcL
α DMan-BSA	NeoML

- Neoglycoclusters, achieved by introduction of a carbohydrate cluster containing 3 to 9 carbohydrates units:



Description	Reference
α DMan-BSA	NeoMClus_O3
α DMan-BSA	NeoMClus_O9
α DMan-BSA	NeoMClus_2O3
α DMan-BSA	NeoMClus_2O9

O3 = 3 monosaccharides/cluster; 2O3 = 3 disaccharides/cluster
O9 = 9 monosaccharides/cluster ; 2O9 = 9 disaccharides/cluster

Tumor associated carbohydrate antigens like neoglycoproteins :

- T and STn neoglycoproteins with respectively Gal β (1-3)GalNAc and Neu5Ac(α 2-6)GalNAc were developed.
- Le^x and SLe^x neoglycoproteins with respectively Gal β 1-4(Fuca1-3)GlcNAc β 1-3GalNA and Neu5Ac α 2-3-Gal β 1-4(Fuca1-3)GlcNAc β 1-3GalNAc were developed

These neoglycoproteins are potentially useful for the research and development of some cancer diagnostics and immunotherapies.

Description	Reference
Neu5Ac α 6GalNAc-BSA	NeoSTn
Gal β 3GalNAc-BSA	NeoT
GalNAc-BSA	NeoTn (= NeoGaN)
Gal β 1-4(Fuca1-3)GlcNAc β 1-3GalNAc-BSA	NeoLe ^x
Neu5Ac α 2-3-Gal β 1-4(Fuca1-3)GlcNAc β 1-3GalNAc-BSA	NeoSLe ^x

Benefits

- The **affinity of neoglycocluster** is 10² to 10³ higher than usual neoglycoprotein.
- Neoglycoproteins and neoglycoclusters are very reliable and stable compound.
- The high solubility in aqueous solutions makes neoglycoproteins and neoglycocluster very powerful reagents for glycosciences studies.

Bibliography

- Duverger *et al.* (1999). Interaction between lectins and neoglycoproteins containing new sialylated glycosynthons. *Glycoconjugate J.*, **16**, 793-800.
- Minwalla *et al.* (2001). Inhibition of melanosome transfer from melanocytes to keratinocytes by lectins and neoglycoproteins in an in vitro model system. *Pigment Cell. Res.*, **14**, 185-194.
- Monsigny *et al.* (2007). Carbohydrate-mediated Interactions. 3.23. Neoglycoproteins. *Comprehensive Glycoscience. From Chemistry to Systems Biology.* Amsterdam, Elsevier. **3**, 477-521.