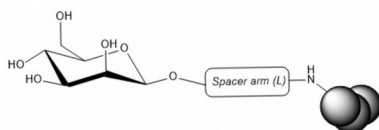


Description

Neoglycoproteins are **glycosylated bovine serum albumin (BSA)** molecules. Our first range of simple neoglycoproteins was achieved by the conjugation of phenylisothiocyanate glycosides with the ϵ -amino groups of lysine residues of BSA.

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 or a polyethylene glycol (PEG) chain), were developed and proposed either with monosaccharides / disaccharides or with glycoclusters

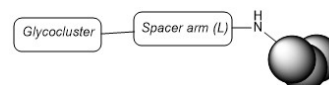
- Monosaccharide spacer neoglycoproteins:



Description	Reference
α DMan-BSA	NeoM_A_O1
α DMan-BSA	NeoM_P_O1
α DMan-BSA	NeoM_P_2O1
α LFuc-BSA	NeoFuc_A_O1
α DGal-BSA	NeoGa_A_O1

A = linker alkyle ; P = linker PEG
O1 = 1 monosaccharide/arm ; 2O1 = 1 disaccharide/arm

- 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

The synthesis of each neoglycoprotein and neoglycocluster is conducted under a standardized procedure allowing an excellent batch to batch reliability. Each neoglycoprotein and neoglycocluster is submitted to a complete quality control ensuring a total conformity with the specifications: purity, carbohydrates/protein ratio, labeling and **functionality assessed by interactions with lectins through GLYcoPROFILE method.**

Monosaccharide spacer neoglycoproteins and neoglycocluster are **produced routinely and always available (from 0.5 mg to 1 mg)** in unlabeled forms (*labeled products available on request*).

Intended use

Neoglycoproteins are known as “amplifiers” of carbohydrates-proteins interactions. The use of neoglycoproteins as tools to decipher glycoconjugates, carbohydrates binding proteins and more generally proteins-carbohydrates interactions were described in many studies (see bibliography).

Neoglycoproteins can be use for research purposes to:

- **Identify lectins or lectin-like proteins.**
- **Purify lectins or other carbohydrate-binding proteins.**
- **Design new diagnostic tools.**
- **Discover biomarkers.**
- **Target drugs.**
- **Trigger immune response** against carbohydrates moieties.

Benefits

- The **affinity of neoglycocluster** is 10^2 to 10^3 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.