PRODUCT INFORMATION

BSA-PEG(2000)

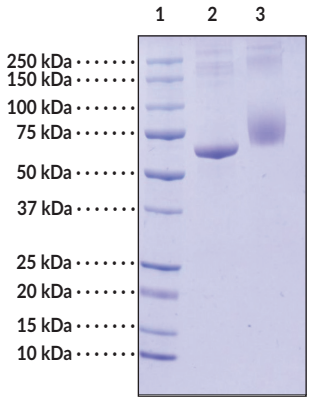
Item No. 43456

Overview and Properties

Synonyms:	BSA-PEG(2K), m-Polyethylene Glycol-NHS ester BSA, PEGylated Bovine Serum Albumin
Source:	Albumin isolated from bovine plasma and modified with methoxy-PEG(2000)-NHS ester
Molecular Weight:	66.5 kDa (unconjugated)
Storage:	-20°C (as supplied)
Stability:	≥1 year
Supplied in:	PBS, pH 7.4
Protein Concentration:	***batch specific*** mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: BSA (4 µg)
Lane 3: BSA-PEG(2000) (4 µg)

SDS-PAGE Analysis of BSA-PEG(2000).

Representative gel image shown; actual purity may vary between each batch.

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Description

Polyethylene glycols (PEGs) are synthetic and hydrophilic polymers.[1,2] They are linear or branched and contain a reactive end group, such as acrylate, methacrylate, dibenzocyclooctynol, or vinyl sulfonate, for covalent attachment to macromolecules or linkers. The opposite end group of PEGs is commonly a methyl group (methoxy PEG), however, hydroxy, amino, butoxy, and *tert*-butoxy end groups have also been used.[1] PEGs are non-toxic and are commonly used to prolong the *in vivo* circulation time of pharmaceutical agents, and PEGylated BSA has been used as a drug carrier *in vitro*.[2-4] Free PEGs are non-immunogenic but become immunogenic when conjugated to a drug delivery nanosystem (DDS) or a macromolecule.[1] Immunogenicity of PEGs varies based on polymer length and branching, end group composition, and chemical nature of the PEG acceptor structure. Cayman's BSA-PEG(2000) protein is composed of methoxy-PEG(2000)-NHS ester and BSA at an approximately 10:1 molar ratio of methoxy-PEG(2000)-NHS ester:BSA. This product can be used as a positive control in ELISA and Western blot (WB) experiments using Cayman's Polyethylene Glycol Rabbit Monoclonal Antibody (Clone RM105) (Item No. 32180) and Polyethylene Glycol Rabbit Monoclonal Antibody - Biotinylated (Clone RM105) (Item No. 32381).

References

1. Kozma, G.T., Shimizu, T., Ishida, T., *et al.* Anti-PEG antibodies: Properties, formation, testing and role in adverse immune reactions to PEGylated nano-biopharmaceuticals. *Adv. Drug Deliv. Rev.* 154-155, 163-175 (2020).
2. Zhang, Z., Zhang, Y., Song, S., *et al.* Recent advances in the bioanalytical methods of polyethylene glycols and PEGylated pharmaceuticals. *J. Sep. Sci.* **43(9-10)**, 1978-1997 (2020).
3. Li, X.-Y., Li, T.-H., Guo, J.-S., *et al.* PEGylation of bovine serum albumin using click chemistry for the application as drug carriers. *Biotechnol. Prog.* **28(3)**, 856-861 (2012).
4. Ferrado, J.B., Perez, A.A., Menegon, M., *et al.* PEGylation of genistein-loaded bovine serum albumin nanoparticles and its effect on *in vitro* cell viability and genotoxicity properties. *Colloids Surf. B Biointerfaces* **222**, 113082 (2023).

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