PRODUCT INFORMATION

HSA-PEG(2000)

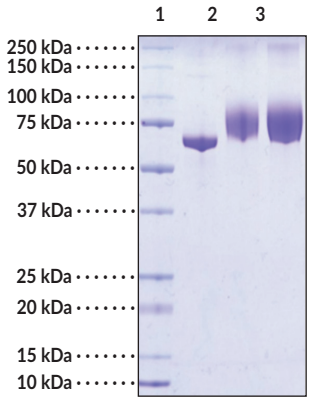
Item No. 46610

Overview and Properties

Synonyms: HSA-PEG(2K), Human Serum Albumin-Polyethylene Glycerol(2000), *m*-Polyethylene Glycol-NHS ester HSA, PEGylated Human Serum Albumin
Source: Albumin isolated from human plasma and modified with methoxy-PEG(2000)-NHS ester
Molecular Weight: 66.47 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: HSA (2 µg)
Lane 3: HSA-PEG(2000) (2 µg)
Lane 4: HSA-PEG(2000) (4 µg)

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

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

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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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 HSA 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 HSA-PEG(2000) protein is composed of methoxy-PEG(2000)-NHS ester and HSA at an approximately 10:1 molar ratio of methoxy-PEG(2000)-NHS ester:HSA. 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). *For in vitro use only*.

This protein was isolated from human serum, which was tested at the donor level and found negative for HIV 1/2 antibody, HBsAg, HCV antibody, HIV-1 (NAT), and HCV (NAT) by FDA-licensed screening assays. Although these materials have been tested, no known test method can guarantee that products derived from human source materials are free from infectious agents. The safe and responsible handling of this product is the responsibility of the customer. We accept no liability for injury or illness resulting from the use and/or handling of the product. The customer assumes responsibility for the proper disposal of all materials in accordance with federal and state regulations.

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. Lee, J.E., Kim, M.G., Jang, Y.L., *et al.* Self-assembled PEGylated albumin nanoparticles (SPAN) as a platform for cancer chemotherapy and imaging. *Drug Deliv.* **25(1)**, 1570-1578 (2018).
4. Zhao, T., Cheng, Y.N., Tan, H.N., *et al.* Site-specific chemical modification of human serum albumin with polyethylene glycol prolongs half-life and improves intravascular retention in mice. *Biol. Pharm. Bull.* **35(3)**, 280-288 (2012).

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