

InnovaCoat® GOLD Protein A 20nm and 40nm 10 OD

Applicable to: 224-0200 200µl 224-1000 1ml
 222-0200 200µl 222-1000 1ml

Release 1. © EXPEDEON, 22/02/2018

INTRODUCTION

At the core of this product is InnovaCoat® GOLD, a unique coated nanoparticle that has an avidly bound protective surface coat which can withstand the most extreme conditions (e.g. 2.5M NaOH at 70°C for >1 hour).

The Protein A (from *S. Aureus*) is irreversibly attached to the surface coat via a covalent bond. This irreversible attachment means that the Protein A cannot desorb. Protein A desorption is a major problem with products where the Protein A is only passively adsorbed to the metal.

InnovaCoat GOLD Protein A 20nm and 40nm binds to the Fc region of most mammalian IgG's. Binding specificities and affinities can vary depending on source species and antibody subclasses (see table below).

Table: Protein A affinity for immunoglobulins.

Species	Ig	Binding strength
Rabbit	IgG	High
Human	IgG	High
Pig	IgG	High
Mouse	IgG ₁	Low/Medium
Mouse	IgG _{2a}	High
Mouse	IgG _{2b}	High
Mouse	IgG ₃	Low/Medium
Goat	IgG	Low
Sheep	IgG	Low
Rat	IgG	Low

SHIPPING AND STORAGE CONDITIONS

InnovaCoat GOLD Protein A 20nm and 40nm is shipped at ambient temperature in a small tamper-evident polypropylene container.

On receipt, store the product at +4°C. The shelf life is >12 months.

FORMULATION

InnovaCoat GOLD Protein A 20nm and 40nm is shipped in a buffer composed of TBS containing 0.1% detergent.

If you wish to exchange the InnovaCoat GOLD Protein A into a specific buffer for your assay or test, centrifuge the conjugate in a microfuge at:

- 9,000g for 20 minutes for the 20nm InnovaCoat GOLD Protein A
- 9,000g for 6 minutes for the 40nm InnovaCoat GOLD Protein A.

Carefully remove the supernatant and add your preferred buffer. It is important to avoid substances that have a very high affinity for gold (e.g. thiols).

The maximum absorbance for the 40nm and 20nm IC-GOLD Protein A is at 530nm and 528nm respectively. To determine the effective concentration of the conjugate obtained we advise to measure the Absmax of light using an UV-vis spectrophotometer after diluting your sample to an appropriate range for your piece of equipment (e.g. if a

40nm gold conjugate is at 10 OD and is diluted 1:10 the Abs530nm for a 1 cm light path is expected to be around 1 AU).

INSTRUCTIONS

Before using InnovaCoat GOLD Protein A 20nm and 40nm to detect a specific antibody we recommend that you check the affinity of Protein A for that antibody and subtype (see table). Rabbit and human IgGs, for example, are good candidates because they bind to Protein A with high affinity.

InnovaCoat GOLD Protein A 20nm and 40nm is suitable as a detector tool in electron and light microscopy, immunoblotting, dot-blot and lateral flow assays applications. As InnovaCoat GOLD Protein A affinity for antibodies can vary, a titration of the specific antibody used is recommended in order to obtain the optimal performance. We also recommend performing the incubation of InnovaCoat GOLD Protein A 20nm and 40nm with the antibody in a buffer that has a pH close to 8, for at least 10-15 minutes. After this stage do not centrifuge the gold complex.

For additional applications please contact our Technical Support.

RELATED PRODUCTS AND SERVICES

Description	Prod. Code
InnovaCoat® GOLD Protein G 20nm and 40nm 10 OD	(225-0200; 225-1000; 223-0200; 223-1000)

InnovaCoat® GOLD Custom Services, including optimization of covalent antibody conjugates, covalent attachment of small molecules and ligands.

TECHNICAL SUPPORT

For technical enquiries get in touch with our technical support team at: technical.enquiries@expedeon.com

For further information see our website: www.expedeon.com

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