

ab186922 40 nm Gold Biotin Conjugate (40 nm, 10 OD)

A product of Expedeon, an
Abcam company

Applicable to Expedeon product codes 240-0200, 240-1000.

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40 nm Gold Biotin Conjugate (40 nm, 10 OD) datasheet:

www.abcam.com/ab186922

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This product is for research use only and is not intended for
diagnostic use.

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1. Overview

Abcam's 40 nm Gold Biotin Conjugate (40 nm, 10 OD) is 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).

By covalently attaching biotin ligand to the surface coat the resulting Gold-Biotin nanoparticles inherit the stability attributes of the core nanoparticle; moreover the biotin ligand cannot desorb, which is a major problem with all competing products in which a biotin analogue is directly attached to the metal.

Biotin is attached to Gold via an extended linker to facilitate high affinity molecular interactions with avidin and streptavidin.

2. Materials Supplied and Storage

Store product at +4°C upon receipt.

Item	Quantity		Storage temperature
40 nm Gold Biotin Conjugate (40 nm, 10 OD)	200 µL	1 mL	+4°C

3. Formulation

The Gold Biotin is shipped in a buffer composed of TBS containing 0.1% detergent.

If you wish to exchange the Gold Biotin into a specific buffer for your assay or test, centrifuge the conjugate in a microfuge at 9,000 x *g* for 6 minutes. 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).

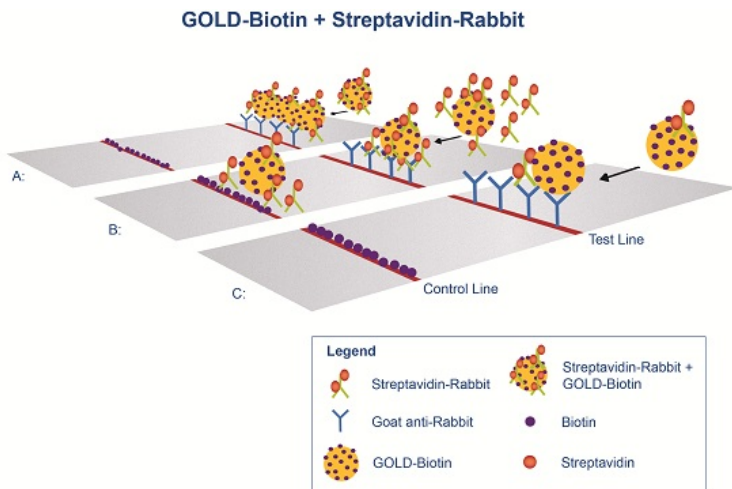
The maximum absorbance for the 40 nm Gold Biotin is at 530nm. To determine the effective concentration of the Gold Biotin we advise to measure the absorbance of light at 530 nm using an UV-vis spectrophotometer after diluting your sample to an appropriate range for your piece of equipment (e.g. if the Gold Biotin is at 10 OD and is diluted 1:10 the Abs_{530nm} for a 1 cm light path is expected to be around 1 AU).

4. Instructions

A common application for Gold Biotin is to be used as a detector in Lateral Flow Assays (LFAs). In the following example, streptavidin conjugated rabbit IgG was incubated at 0.5 – 650 $\mu\text{g/mL}$ with 10 OD Gold Biotin for 1 hour at room temperature. The samples were then diluted to 0.2 OD in Running Buffer and loaded in triplicate on a LFA strip. The strips are then read after 30 minutes.

The 3 possibilities of binding are shown in the image opposite:

- Ideal concentration of streptavidin conjugated Rabbit IgG (5-50 $\mu\text{g/mL}$) binds to the Gold Biotin producing a strong signal on the Test Line (Goat anti-rabbit IgG).
- Excess streptavidin conjugated Rabbit IgG (>400 $\mu\text{g/mL}$) results in competition between the unbound streptavidin conjugated Rabbit IgG and Gold Biotin.
- A lack of streptavidin conjugated Rabbit IgG (<10 $\mu\text{g/mL}$) leads to a very weak test line.



Titration of the specific antibody is required to reach the optimal concentration for binding.

This method is similar to the use of GOLD Biotin in nanoparticle based biosensors and coated surface substrate.

Technical Support

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