Naked Gold® 30nm Concentrated Gold Sols, 15 O.D./mL

Cat. #: NG30-B001 – 1 mL
Cat. #: NG30-B009 – 9 mL
Cat. #: NG30-B044 – 44 mL
Cat. #: NG30-B100 - 100 mL

Description

Naked Gold® 30 nm concentrated gold nanoparticles at 15 O.D./mL (adsorption max. 522-528 nm).

Naked Gold sols are highly uniform and produced by a proprietary process that does not involve the traditional boiling and centrifugation methods. They are "conjugation-ready" so that antibodies or other proteins can be passively coated onto the gold without the need for concentration, saving time and reducing waste. Naked Gold sols offer outstanding lot-to-lot consistency.

Form/Storage

Provided in reagent quality water. Naked Gold is shipped at ambient temperature in a container preventing freezing. Store undiluted at 18-25°C or in the refrigerator (2-8°C). DO NOT FREEZE. Freezing will cause precipitation and irreversibly damage the product. Expiration date is stated on product label.

Intended Use

Naked Gold® 30 nm concentrated gold sols produce gold conjugates by passive adsorption of antibodies and other ligands to the gold nanoparticle surface. The resulting conjugates can be utilized in blotting and lateral flow assays.

Preparation of the antibody/protein solution

For better performances, antibody/protein should be stored in a buffer free of protein stabilizers, amino acids (glycine), primary amines (Tris), thiols (mercaptoethanol, DTT), and carboxylic acids (EDTA). If not, we recommend dialyzing preparation against 0.5-1X phosphate buffered saline (PBS).

For conjugation, we recommend using a starting loading concentration of 2 µg antibody/protein per O.D. of Naked Gold. This amount depends on the application and can be adjusted up or down based on results. The determination of the loading concentration can be performed during optimization of the reaction, including pH adjustment.

Conjugation protocol

If new to gold conjugation, we recommend using a Gold-in-a-Box™ Conjugation kit for initial determination of the conjugation protocol. These kits include a series of buffers to determine the best pH to perform the conjugation, a BSA-based blocking solution, and a drying solution to apply and dry the final conjugate solution on conjugate pads.

Steps:

1. Allow all the reagents to acclimate to ambient temperature (18-25˚C) before use.
2. Dilute antibody/protein to 1 mg/mL in PBS at the pI or a pH value slightly above (± 0.5).
3. Add gold to a glass tube/PETG bottle at concentration desired (up to 15 O.D./mL)
4. Add antibody at 2 µg/O.D. or at a loading concentration determined on a pilot scale.
5. Mix by inversion.
6. Allow the reaction to sit for 2 minutes.
7. Add 10% V/V blocking solution to the reaction.
8. Mix by inversion.
9. Store the solution at 2-8˚C until use.

The final conjugate can be sprayed as is or made into a conjugate solution mixture prior to spraying and drying. This would be the case for an assay using different conjugates for control and test lines. Conjugate solution composition is determined empirically. A PBS-based solution including 1-10% sugar and 1-10% alcohol (if drying on hydrophobic materials) is a good starting point. We recommend using between 1.5 – 6.0 µL of gold conjugate per centimeter of conjugate pad.

Example protocol:

1. Add 1 mL of 15 O.D./mL gold to a glass tube.
2. Add 0.03 mL of a 1 mg/mL solution of antibody/protein at pH 7.4. This is a 2 µg antibody/protein per O.D. of Naked Gold ratio.
3. Mix and react for 2 minutes.
4. Add 0.1 mL of 10% blocking solution.
5. Mix and store at 2-8 ˚C until use.

Product Safety and Handling

Please review the Safety Datasheet (SDS) available online for proper safety and handling procedures.

Related Products

- Gold-in-a-Box™ Conjugation Kit, 30 & 40 nm, Cat. No.: NGIB34-B018
- Conjugate Ribbon Kit, Cat. No.: TTRK-120-002
- BSA Blocking Solution, Cat. No.: BLK-010
- Conjugate Drying Buffer, Cat. No.: CDB-002

Warranty