

Product specification

Protein A coupled yttrium oxide imaging beads

RPNQ 0274 (500mg) /RPNQ 0275 (50mg)

Safety warnings and precautions

Warning: For research use only. Not recommended or intended for diagnosis of disease in humans or animals. Do not use internally or externally in humans or animals.

Harmful by inhalation or if swallowed.

Caution: For use with radioactive material.

This product is to be used with radioactive material. Please follow the manufacturer's instructions relating to the handling, use, storage and disposal of such material.

Warning: Contains yttrium oxide. See safety data sheet supplied.

All chemicals should be considered as potentially hazardous. We therefore recommend that this product is handled only by those persons who have been trained in laboratory techniques and that it is used in accordance with the principles of good laboratory practice. Wear suitable protective clothing such as laboratory overalls, safety glasses and gloves. Care should be taken to avoid contact with skin or eyes. In the case of contact with skin or eyes wash immediately with water (see safety data sheet for specific advice).

These beads are in the size range 1-5 microns and as such constitute a potential inhalation hazard when dry.

Quality control

Each batch of LEADseeker™ protein A coupled yttrium oxide imaging beads* is tested for their performance in a [¹²⁵I]cAMP assay relative to a reference batch.

Expiry

The expiry date is stated on the package and will normally be at least 4 weeks from the date of despatch.

Packaging and storage

Protein A coupled yttrium oxide imaging beads are supplied by Amersham Biosciences as a freeze-dried solid, containing 10% sucrose by weight. This material should be stored protected from light at 2-8°C.

Bead reconstitution

Before use, the beads should be reconstituted in a buffer appropriate for the particular assay to be performed. **The beads should be thoroughly mixed to ensure an homogeneous suspension while pipetting.** This may be done by continuous agitation of the bulk suspension with a magnetic stirrer.

The user is advised to avoid the use of high ionic strength buffers or buffers containing high levels of phosphate ions as these may promote aggregation of beads. It is recommended that suspensions of beads should be prepared in water or low ionic strength media for storage or dispensing, then diluted with assay buffer immediately before use.

PLEASE NOTE: Anti-microbial agents are not included in this reagent. The user should therefore be aware that microbial contamination may occur when the reconstituted beads are stored for prolonged periods. If anti-microbial agents (e.g. sodium azide) are added on storage, then it remains the responsibility of the user to evaluate the effects of the added agent on the assay.

Reconstituted beads can usually be stored in water or low ionic strength media at 2-8°C for up to seven days. **DO NOT FREEZE.**

Assay conditions

Protein A binds to the Fc region of immunoglobulins, leaving the antigen binding Fab region unhindered. Protein A has five domains which mediate the interaction with the Fc region of most mammalian IgGs. For some species it will also bind with IgA, IgE and IgM. The coupling of protein A to imaging beads allow the immobilising of secondary antibodies during the assay.

The binding of radiolabelled ligands to such immobilised antibodies brings the isotope into close proximity with the scintillant which is incorporated within the bead. This allows the emitted radiation (beta particles for [³H] or Auger electrons for [¹²⁵I]) to stimulate the scintillant to emit light. Any unbound radiolabelled ligand is not in close enough proximity to the scintillant to allow such energy transfer and hence no signal is generated.

Light emitted by stimulated LEADseeker imaging beads is detected using a LEADseeker imager. Other isotopes such as [³³P] and [³⁵S] can also be used in LEADseeker imaging format.

It remains the responsibility of the user to optimise the amount of bead required and the incubation time required for each assay. To achieve optimal light output, excess beads should be present in order to capture all of the activity present in the assay tube. If employing receptor preparations, such as that found in microsomal preparations, the amount of receptor preparation together with the radiolabelled ligand being used needs to be optimised for each assay.

Ordering information

When ordering please use the following order code:

Protein A coupled yttrium oxide imaging beads, RPNQ0274 (500mg) or RPNQ0275 (50mg)

For further information, please contact your local Amersham Biosciences office.

LEADseeker Homogeneous Imaging System is covered by PCT Application Number W098/07022

*Patent applied for

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