

Europium Conjugation Kit ab269889

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Overview

Product name Europium Conjugation Kit

Product overview Europium Conjugation Kit (ab269889) allows antibodies or proteins to be quickly and easily conjugated to high quality 200 nm Europium (Eu) chelate microspheres. The particles have been specially treated to enhance the handling of the beads and permit easy covalent attachment of antibodies and other proteins.

The Eu microspheres in this kit are freeze dried. The conjugation reaction is initiated simply by reconstituting the dry mixture with the antibody, which becomes attached (via lysine residues) to the specially treated surface.

It takes 30 seconds to set up the conjugation, the hands-on time for the conjugation procedure is about 3 minutes and the conjugate is ready to use within 35 minutes. The biomolecule is simply pipetted into a vial containing the particles, the conjugation is allowed to occur and then a centrifugation allows a buffer exchange.

The surface treatment makes the particles resistant to aggregation and the Eu fluorescence signal allows a higher sensitivity to be reached in immunoassays such as lateral flow assays.

Additionally, unlike passive methods the conjugation procedure has only a weak dependence on the isoelectric point of the antibody. Consequently, extensive trials at different pH values are not required; all antibodies can be conjugated at one of two pHs, both of which are supplied in this kit (Reaction Buffers A and B).

Benefits of Europium Conjugation Kit:

Easy and rapid conjugation – Conjugates ready to use in 35 minutes

15-fold higher sensitivity compared with other common particles

Generation of stable conjugates

Resistant to aggregation

No harsh resuspension methods required

Fully scalable – Easy transfer from R&D to manufacturing

General notes:

This product is manufactured by Expedeon, an Abcam company. It was previously called 200nm Europium Conjugation Kit. Expedeon product code 1200-0040 (4 reaction mini kit) is the same as the 4 x 4 µg size of this product, code 1200-0100 (10 reaction mini kit) is the same as the 10 x 4 µg size, and code 1200-0120 (1 reaction midi kit) is the same as the 1 x 40 µg size of this product.

Buffer requirements:

We recommend that the antibody is at a concentration of 1 mg/mL in 10 – 50 mM MES, HEPES or MOPS at pH 6 – 7 (with no other components e.g. salt or azide) prior to conjugation. For incompatible buffers and low antibody concentrations, use our rapid **antibody purification and concentration kits** for Nanoparticles. To learn more about incompatible buffers, please refer to the protocol booklet.

Properties

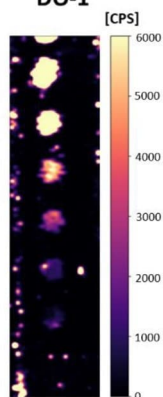
Storage instructions

Store at -20°C. Please refer to protocols.

Components	4 x 4 µg	10 x 4 µg	1 x 40 µg
ab273919 - 200 nm Europium vial (Lyophilized)	4 x 4µg	10 x 4µg	1 x 40µg
ab273917 - Europium Quencher (10X)	1 x 1500µl	1 x 1500µl	1 x 1500µl
ab273915 - Reaction Buffer A (1X)	1 x 1ml	1 x 1ml	1 x 1ml
ab273916 - Reaction Buffer B (1X)	1 x 1ml	1 x 1ml	1 x 1ml
ab273918 - Resuspension Buffer (1X)	1 x 1ml	1 x 1ml	1 x 1ml

Images

**200nm EuNPs
DO-1**

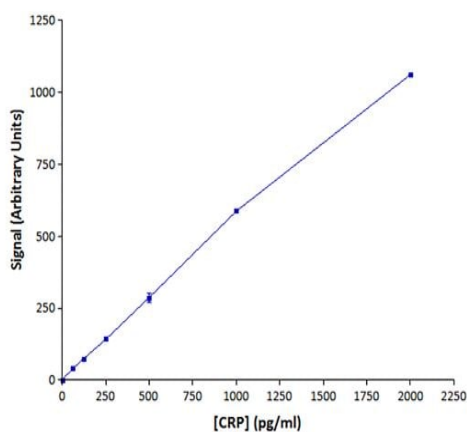


Dot Blot - Europium Conjugation Kit (ab269889)

Image from Vlcovska, Marcela, et al., Molecules, 26(3):630; doi: 10.3390/molecules26030630. Reproduced under the Creative Commons license <https://creativecommons.org/licenses/by/4.0/>

Vlcovska, Marcela, et al used Europium Conjugation Kit (ab269889) as part of examining antibody activity after binding to nanoparticles. They used the kit to conjugate Europium to monoclonal anti-DO-1 antibody for use in LA-ICP-MS dot-blot analysis.

Inductively-coupled laser ablation plasma mass spectrometry (LA-ICP-MS) dot-blot analysis of p53 protein standard (total protein amount 0.10-10.00 ng) using DO-1 antibody conjugates with Gold nanoparticles (AuNPs).



Europium Conjugation Kit (ab269889)

Typical results obtained from fluorescence reader (bottom), showing europium conjugated to a monoclonal anti-CRP antibody. The conjugate is easily able to detect as little as 63pg/mL CRP, in part due to the low background and lack of aggregation.

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