

Sac-Cel®

Solid Phase Antibody-Coated Microfine Cellulose Suspension

Anti Rabbit IgG

AA-SAC1

Anti Sheep/Goat IgG

AA-SAC2



Summary and Explanation of Use

Double antibody separation has been commonly used since the earliest days of radioimmunoassay (RIA)^{1,2} and is very reliable. Less demanding procedures have been sought, in particular solid phase antibody techniques^{3,4}. Sac-Cel, which is antibody covalently coupled to microfine cellulose particles, successfully combines the specificity of liquid antibody with the speed, simplicity and precision of solid phase separation, and has been adopted by a number of kit manufacturers, including IDS.

Sac Cel has also been used in affinity purification⁵.

Two different species types are currently available: anti-rabbit and anti-sheep/goat.

Reagents

The material is supplied as 200 mL of a suspension containing 10 percent antibody-linked microfine cellulose particles suspended in a buffer of the following composition:

Sodium phosphate 0.02M

Ethylenediaminetetraacetic acid (disodium salt) 0.01M

Sodium chloride 0.145M

Sodium azide 0.09 percent w/v

Bovine serum albumin (of USA origin) 0.5 percent w/v

Tween 20 0.5 percent v/v

pH 7.4

A magnetic stirring bar is included in each bottle.

Precautions in Handling Reagents

The reagent contains sodium azide as preservative and appropriate care should be taken when disposing of azide containing solutions.

Shelf-life and Storage

The reagent should be stored at 2 to 8°C, at which temperature it will retain potency at least until the expiry date indicated on the bottle label. DO NOT FREEZE SAC-CEL.

Methodology

The Sac-Cel reagents are primarily intended for use in the separation stage of immunoassays, especially RIA, although other immunocapture procedures are possible. In RIA, when the primary antibody incubation with labelled analyte is complete, invert the

Sac-Cel bottle several times to mix, then place on a magnetic stirrer (the bottle contains a magnetic stirring bar). Excessive foaming should be avoided. Take care to select the type (species) of Sac-Cel appropriate to the species of primary antibody used.

While stirring continuously, add 0.1 mL of the suspension to each assay tube (except "totals"). Vortex the contents of each tube and allow to stand at room temperature for 30 minutes without further mixing. The cellulose will sink slowly to the bottom of the tubes and should not be re-suspended.

Add 1 mL of de-ionised water to each tube (except "totals") and centrifuge for at least 2 minutes at 1000g. Aspirate the supernatants and count the bound fraction in the pellet, or alternatively decant the supernatant, in which case either the bound or free fraction may be counted.

Quality Control

Non specific binding (or blank) levels of the order of 1.5 to 2 percent are desirable, but higher values may be observed with some antigens.

Limitations of the Procedure

If the quantity of the primary antibody in the system is greater than 0.04 µL (e.g. 0.1 mL of a 1:2500 dilution), the use of Sac-Cel is not recommended as the amount of suspension may be inadequate to bind all the antibody, when a decrease in percentage binding may be observed.

DO NOT USE ADDITIONAL CARRIER SERUM as is usual with liquid secondary antibody separations, even if the primary antibody is used at very high dilution. If normal carrier serum is routinely added to the diluent a different diluent must be prepared.

References

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4. Sluiter, W.J. et al. (1972). *Clin. Chim. Acta.*, 42, 255.
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