Sac-Cel*

Solid Phase Second Antibody Coated Cellulose Suspension

Anti Rabbit IgG	**AA-SAC1**
Anti Sheep/Goat IgG	**AA-SAC2**
Anti Guinea-pig IgG	**AA-SAC3**
Anti Mouse/Rat IgG	**AA-SAC4**

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IDS LTD
Boldon Business Park
Boldon
Tyne & Wear
NE35 9PD
ENGLAND

Tel: +44 (0) 191 519 0660
Fax: +44 (0) 191 519 0760
E-Mail: ids@idsltd.com
Web: www.idsltd.com

Summary and Explanation of Test
Double antibody separation systems have been commonly used since the early development of radio-immunoassays[1,2] and have proved to be reliable. Various alternative procedures have been used in the search for less demanding methods, in particular solid phase techniques[3,4].
Sac-Cel consists of second antibody covalently coupled to cellulose, the use of which combines the specificity of liquid double antibody procedures with the speed, simplicity and precision of solid phase separations. Four different types are available, viz: anti rabbit, anti sheep/goat, anti guinea-pig and anti mouse/rat.

Reagents
The material is supplied as 200 mL of a suspension containing 10 percent solids 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 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.

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.

Methodology
The Sac-Cel reagents are intended for use in the separation stage of sensitive immunoassays employing labelled analytes, especially radio-immunoassays. When the incubation of the "first" antibody with labelled analyte is complete, invert the bottle several times then place the bottle of Sac-Cel on a magnetic stirrer (the bottle contains a magnetic stirring bar), excessive foaming should be avoided. Take care to select the type of Sac-Cel appropriate to the species of first antibody being 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 gradually sink to the bottom of the tubes but 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 supernatant and count the bound fraction in the pellet. Alternatively, decant the supernatant in which case either the bound or free fraction may be counted.

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

Limitations of the Procedure
If the quantity of the first antibody in the system is greater than 0.04µL (e.g. 0.1 mL of a 1:2500 dilution), the use of Sac-Cel is not recommended as the amount of suspension is inadequate to bind all the antibody and a decrease in percentage binding will be observed.
DO NOT USE ADDITIONAL CARRIER SERUM as is usual with liquid second antibody separations, even if the first 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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3. Morgan, C.R. and Lazarow, A. (1963). *Diabetes*, 12, 115.
4. Sluiter, W.J. et al. (1972). *Clin. Chim. Acta*., 42, 255.

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