

PROKEEP - Superior Low Protein-binding Tube



PROKEEP is a high quality tube developed for the use of protein or peptide analysis (SDS-PAGE, HPLC, MS) as it mitigates the risk of the sample loss during experiment and preservation, and improves the signals detection.

Our special blending plastic materials avoid problem caused by elution from the tube

PROKEEP tubes reduce protein binding as a result of using our special blending of raw materials with low protein/peptide absorption and our technique of high precision finishing on the mold (no surface treatment on PROKEEP).

With PROKEEP, elution from the tube can be avoided and better experiment result on MALDI MS analysis and Protein Chip analysis can be anticipated (See below).

PROKEEP's Low Protein binding performance

Loss of protein and peptide when using plastic containers is caused by the following two factors.

a. Solution remained in the container after pipetting or centrifuge.

b. Adsorption of protein and peptide to the plastic containers.

PROKEEP has been developed by approaching both of two factors.

Watson's PROKEEP containers are incomparable in terms of achieving a low residue signal.

PROKEEP's residue signal is approximately 1/20million, which is 1/850 residue amount of other conventional hydrophilic products in the following factor (1).

No occurrence of peptide signal loss during 2 weeks-storage in the following factor (2).

Made from virgin polypropylene (autoclavable)

PK-15C-500 Centrifugal force : 20,000xG (physiological saline 1ml/15minutes)
With scale (200µl/1000µl) Flat top (with marking space)

PK-20C-500 Centrifugal force : 20,000xG (physiological saline 1.5ml/15minutes)
With scale (0.5ml/1.0ml/1.5ml/2.0ml) Flat top (with marking space)

(1) Residue Protein Amount: Fig 1

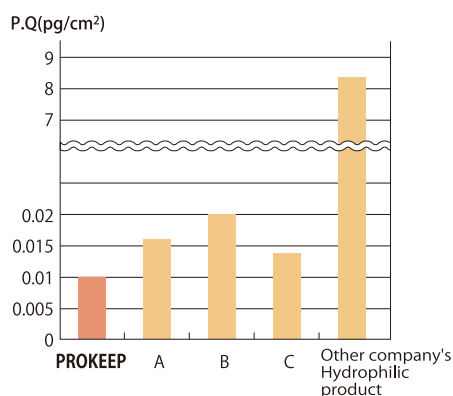
Test Method:

FITC-BSA solution (1µg/ml) was put in a microtube and left for 1 hour at room temperature. The fluorescence of the surface of the tube was measured and digitized after removal of the solution, and then the residual protein mass was analyzed. This method evaluates the residual amount of protein on the surface of the tube.

Result:

The residue amount on PROKEEP low protein binding tube is extremely low, which is 1/20million of the protein added. Tubes with hydrophilic surface treatment exhibited higher residue amount due to characteristic of the treatment.(Fig.1)

Fig. 1: Protein binding volume



(2) Adsorption of protein and peptide to the tube: Fig 2

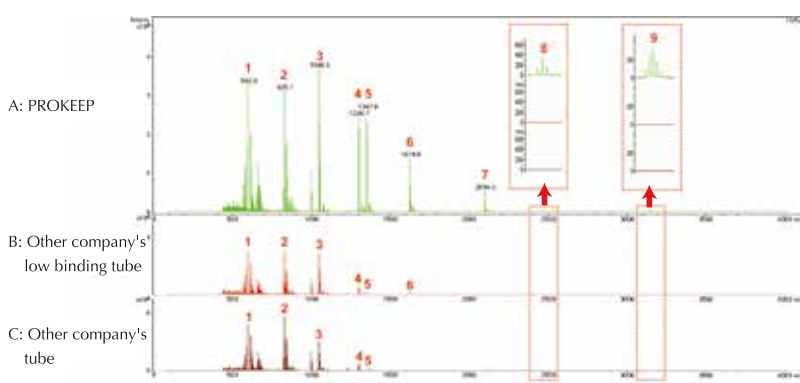
Test Method:

A solution (0.1%TFA, 10µl) equivalent to 500fmol/µl peptide mix contained in Bruker Daltonics's Peptide calibration standard (#206195) was put in a tube and kept at 4°C for 2 weeks. Then, the peptide in the tube was collected and analyzed by mass spectrometer (Bruker Daltonics's Ultraflex tof/ tof) .

Result:

In the case of PROKEEP's low protein binding tube, all the peaks were detected after the 2 weeks. Conventional tube's showed a part of the peaks were undetectable and peptide loss by adsorption was observed (Fig 2B).

Fig.2



(3) Crystallization on MALDI Target Plate

Test Method:

In the crystallization process on a target plate, which is the indispensable process of MALDI type mass spectrometer analysis, a sample collected from another company's hydrophilic treated tube exhibited a disturbance in crystallization and it was difficult to conduct an accurate measurement, and elution of resin content was suspected(Fig. 3).

PROKEEP's low protein binding tube showed equivalent performance to the tube recommended by Bruker Daltonics.

Fig.3



PROKEEP

Other company's hydrophilic treated tube

Other company's low binding tube

Cat. No.	Item	Color	Unit	Case
PK-15C-500	PROKEEP low protein binding tube 1.5 ml bulk pack	Natural	500tubes/bag	20bags/case
PK-20C-500	PROKEEP low protein binding tube 2.0 ml bulk pack	Natural	500tubes/bag	20bags/case