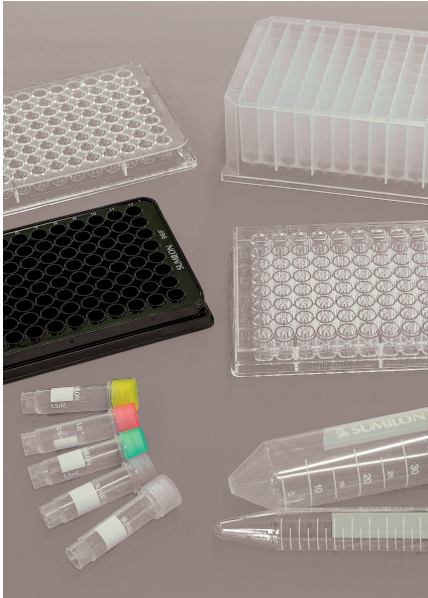


PROTEOSAVE™



PROTEOSAVE™: FOR PRECIOUS SAMPLE PRESERVATION

When biological samples are incubated or stored in a standard tube or plate, biological materials and its properties can be lost due to adsorption to the plastic surface. This is a serious concern for researchers working with precious proteins, antibodies, and peptides.

ProteoSave™ is specially designed for **reducing biological sample adsorption** to the plastic surface. The surface of ProteoSave™ is **coated with an ultra-hydrophilic polymer**. This ultra-hydrophilic polymer prevents protein denaturation and adsorption which could be inflicted by surface influence (Fig.1, Fig.2). Also, the coated polymer is bound on the surface covalently, so materials eluting from the surface are reduced to a minimum. ProteoSave™ is shown to be the more suitable tube/plate for your precious biological sample preservation (Fig. 2).

FEATURES OF PROTEOSAVE™

- Reduction of the adsorption of proteins, peptides and cells.
- Elution of materials reduced to a minimum due to the covalently attachment of the ultra-hydrophilic polymer to the surface.
- Resistance to organic solvents, detergents, and heat (boiling at 100°C 10min.).

PRINCIPLE

The surface of the ProteoSave™ tubes and wells with high density of hydroxyl groups prevent the non-specific binding of proteins, peptides, and cells to the surface (Fig. 1). The coated polymer is bound on the surface covalently, thus elution of materials from the surface is reduced to a minimum.

Ultra-hydrophilic surface of ProteoSave™

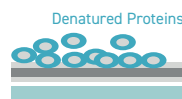
- Prevents protein adsorption on the surface.
- Keeps protein structure and function.



Ultra-hydrophilic surface
Tube/Plate surface

Hydrophobic surface

- Causes protein adsorption on the surface.
- Causes protein denaturation and loss of function.



Hydrophobic surface
Tube/Plate surface

Figure 1. Features of Ultra-hydrophilic surface of ProteoSave™ compared with a hydrophobic surface

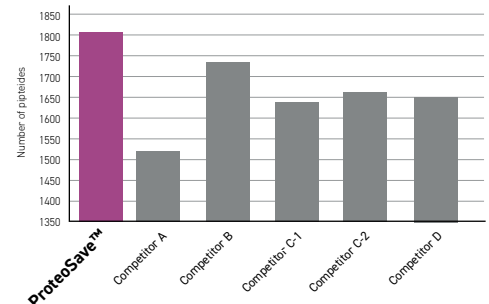


Figure 2. The number of peptides detected by nanoLC Ultra 2D with TripleTOF®5600 from Hep3B digested extracts. (Data Courtesy of Masahiro Kamita, Ph.D., National Cancer Center Research Institute, Chemotherapy and Clinical Research.)

APPLICATION

- High value sample preservation like Proteins, Antibodies, Vaccines etc.
- Protein assay- Enzyme catalysis (example Fig.3).
- Preparation of dilution series.

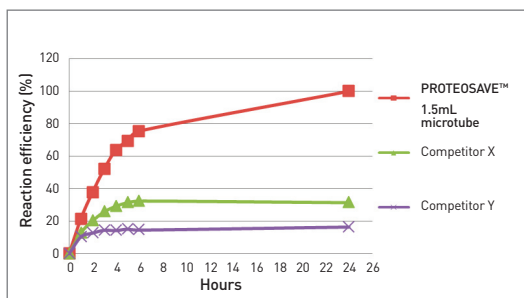


Figure 3. Hydrolytic reaction efficiency of Glycosynthases Endo-M. (Data: Courtesy of Hiroki Shimizu, Ph.D., Senior researcher of Bioproduction Research Institute, National Institute of Advanced Industrial Science and Technology (AIST))

Methods & Material

- Reaction Containers: PROTEOSAVE™ 1.5mL microtube, Competitor X, Competitor Y
- Reaction reagent: SGP11 3mM(0.43mg) (TOKYO CHEMICAL INDUSTRY CO., LTD.), Phosphate buffer(pH7.0) 50mM, Endo-M 10mU/mL(0.5mU) (No. A1651, TOKYO CHEMICAL INDUSTRY CO., LTD.)
- Total Volume : 50 µL, Temperature : 30 °C.
- Reaction timeslot (hours) : 1st, 2nd, 3rd, 4th, 5th, 6th, 24th
- Preparation for HPLC Analysis: Prepare 5 µL → Add 5 µL 8M Guanidine → Take 8µL for HPLC analysis

Organic solvent resistance

	1 hour			5 hours		
	10%	50%	100%	10%	50%	100%
Methanol	Y	Y	Y	Y	Y	Y
Ethanol	Y	Y	Y	Y	Y	Y
2-propanol	Y	Y	Y	Y	Y	Y
Glycerol	Y	-	-	Y	-	-
Acetonitrile	Y	Y	Y	Y	Y	Y
Acetone	Y	Y	Y	-	-	-
DMSO	Y	-	-	-	-	-
2-mercaptoethanol	Y	-	-	Y	-	-

Heat/cold resistance

	10 min	30 min	24 hours	6 months
120°C	-	N	-	-
100°C	Y	-	-	-
60°C	Y	-	Y	-
40°C	Y	-	Y	-
- 4°C	-	-	-	Y
-80°C	-	-	-	Y

Detergent resistance

	0.1 %	1.0 %
CHAPS	Y	-
TritonX	Y	-
Tween20	Y	-
SDS	-	Y

Y = Yes
 - = no data available
 N = No

Lineup of ProteoSave™

Cat. No	Product	Material	Note	Quantity
MS-4205MZ	0.5mL Microtube	Polypropylene	Non-sterilized	500 (100 pcs/bag x 5)
MS-4255MZ	0.5mL Microtube	Polypropylene	Radiation sterilized	500 (100 pcs/bag x 5)
MS-4215MZ	1.5mL Microtube	Polypropylene	Non-sterilized	500 (100 pcs/bag x 5)
MS-4265MZ	1.5mL Microtube	Polypropylene	Radiation sterilized	500 (100 pcs/bag x 5)
MS-4201MZ	0.5mL Slimtube	Polypropylene	Non-sterilized	500 (50 pcs/bag x 10)
MS-4202MZ	1.5mL Slimtube	Polypropylene	Non-sterilized	500 (50 pcs/bag x 10)
MS-8296FZ	96-wells, Flat Plate	Polystyrene	No Lid, Non-sterilized	50 (5 pcs/bag x 10)
MS-8296KZ	96-wells, Flat Plate (black)	Polystyrene	No Lid, Non-sterilized	50 (5 pcs/bag x 10)
MS-3296UZ	96-wells, U Plate	Polystyrene	No Lid, Non-sterilized	50 (5 pcs/bag x 10)
MS-52150Z	15mL Conicaltube*	Body: PET, Cap: Polyethylene	Non-sterilized	100 (5 pcs/bag x 20)
MS-52550Z	50mL Conicaltube*	Body: Polypropylene, Cap: Polyethylene	Radiation sterilized	100 (5 pcs/bag x 20)
MS-82962RZ	96-wells, 2ml, Deep-Well Plate V-shaped bottom	Polypropylene	Sterilized	15 (5pcs/bag x 3)

* Operational temperature -80°C to 40°C
 Storage: Room temperature

