PRODUCT INFORMATION

Product Name : ProteinChecker
Code No. : DP100
Size : for 50 reactions *This product is research use only*

Description :

Protein Purification is an essential and indispensable procedure for protein characterization on biochemical study. In the procedure, a rapid and handy protein-detection assay is very helpful. The ProteinChecker makes it possible to detect protein easily and quickly on the spot. The procedure is only mixing of the sample interested and the ProteinChecker, then you can detect protein instantly.

Contents :

ProteinChecker	4 ml (bottle)
Bovine serum albumin (BSA) solution, 1 mg/ml (in 0.9% NaCl and 0.05% sodium azide)	1 ml
0.5 ml tube	50 tubes

Storage condition :

The ProteinChecker is stable for 6 months in a cool (4 °C) and dark place. During storage, precipitation occurs in the ProteinChecker. Before use, shake the bottle of the ProteinChecker to mix well (After mixing well, precipitation does not occur for a few hours). BSA solution is stable for 6 months in a cool (4 °C) and dark place.

How to use :

The assay is simple; mix 10 µl of your sample and 50 µl of ProteinChecker.

1) Shake the bottle of ProteinChecker to mix the reagent well.
2) Transfer 50 µl of ProteinChecker to a 0.5-ml tube (included in this product).
3) Put 10 µl of your sample into the tube containing the ProteinChecker.
4) Mix well (shaking or vortexing) and check the color. Less than 0.5 µg of protein does not change color. Midnight blue means approximately 0.5-2 µg of protein. Blue color means approximately over 2 µg of protein.

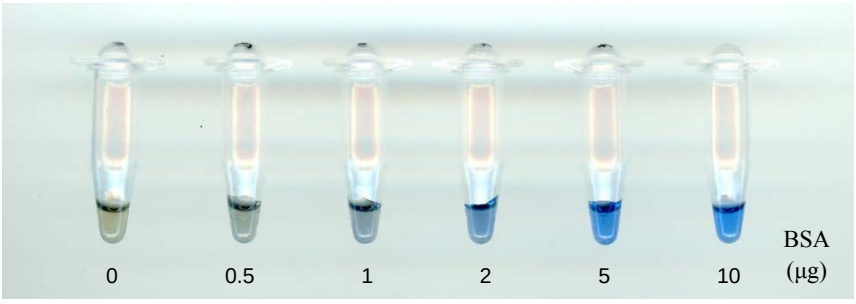

Fig.1
Reaction of
ProteinChecker

Interfering substances

Some substances interrupt the ProteinChecker assay. Detergents such as deoxycholic acid, Triton X-100, Tween 20, and SDS affect the coloring reaction. Maximum compatible concentrations for substances are listed in Table 1.

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Table 1. Compatible substance concentrations in protein sample

Ten µl of protein sample is put in 50 µl of ProteinChecker. The percentage (%) indicates the relative content of substances in the 10 µl of the protein sample.

	substance	concentration		substance	concentration
1	Acetonitrile	40%	22	MOPS buffer (pH7.2)	1 M
2	Ammonium sulfate	0.8 M	23	Nonidet P-40	0.02%
3	β-mercaptoethanol	1 M	24	PIPES buffer (pH6.8)	0.2 M
4	Calcium chloride	0.15 M	25	1x TBE	100%
5	CHAPS	1%	26	1x TAE	100%
6	CHAPSO	1%	27	Tris buffer (pH8.0)	2 M
7	Deoxycholic acid	0.01%	28	Triton X-100	0.05%
8	DMSO	20%	29	Tween 20	0.02%
9	Dihiothreitol	1 M	30	Urea	4 M
10	EDTA-Na (pH8.0)	0.2 M	31	Potassium chloride	0.25 M
11	EGTA-Na (pH8.0)	0.2 M	32	Potassium phosphate buffer (pH7.4)	0.2 M
12	Ethanol	40%			
13	Glucose	40%	33	SDS	0.01%
14	Glycerol	20%	34	Sodium acetate (pH4.8)	0.5 M
15	Glycine	0.4 M	35	Sodium chloride	0.3 M
16	Guanidine-HCl	0.25 M	36	Sodium citrate	0.2 M
17	HEPES buffer (pH7.5)	0.5 M	37	Sodium phosphate buffer (pH7.4)	0.5 M
18	Imidazole buffer (pH7.0)	0.8 M			
19	Magnesium chloride	0.1 M	38	Sucrose	40%
20	MES buffer (pH6.1)	1 M	39	DNA	1000 µg/ml
21	Methanol	40%	40	RNA	1000 µg/ml

Appendix: Spectrophotometer measurement

• It is possible to assay protein with ProteinChecker using a spectrophotometer, in the range of 0.1-1.0 µg protein.

Procedure :

1) Dilute BSA solution to 0.01- 0.10 µg/µl with diluent.
2) Shake the bottle of ProteinChecker well.
3) Mix 10 µl of the diluent (for Blank), diluted BSA and protein samples with 50-µl of ProteinChecker.
4) Measure these mixtures at 595 nm using a spectrophotometer.
5) Subtract the absorbance of the Blank from absorbance of all diluted BSA and samples. Draw a standard curve by plotting the Blank-subtracted absorbance of diluted BSA. (See “Standard Curve”.)
6) Use the standard curve to determine the protein amount of protein samples of your interest.

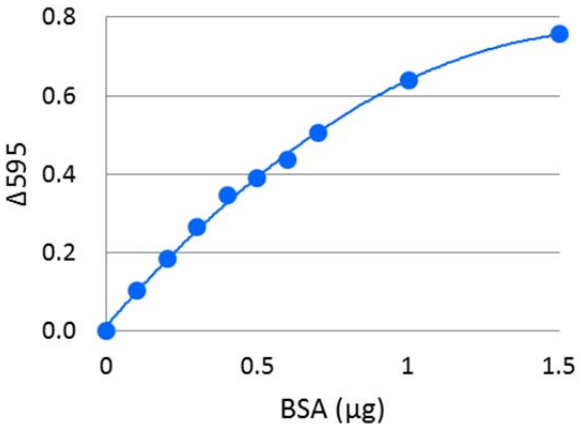

Fig 2. Standard Curve

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