Bradford Solution (Ready-to-use solution) [for Protein determination]

Product Information

Product No. : B5702

Volume : 500 mL

Description

This product is supplied as a ready-to-use solution for protein assay based on the method of Bradford. This product contains Coomassie Brilliant Blue G-250 (CBB G-250). When the dye containing CBB G-250 binds proteins, the absorption maximum of the dye shifts from 465 to 595 nm linearly with the quantity of the protein. This product requires protein standard solution (such as BSA).

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Direction for Use

Material

Standard protein solution:
Protein solution whose concentration is known

Procedure

1. Bring the Bradford solution (Product No. B5702) to room temperature.
2. Gently mix the Bradford solution.
3. Prepare standard protein solutions (see Table 1).
4. Mix standard protein solutions or unknown protein samples with the Bradford solution (see Table 1).
5. Incubate for 5 minutes at room temperature.
6. Measure absorbance at 595 nm. The absorbance should be measured within 60 minutes of the start of the reaction.
7. Calculate the protein concentration.

Calculation

a. Calculate the corrected blank absorbance at 595 nm which is the difference between the average absorbance of the blank solution and that of standard solution.
b. Create a standard curve by plotting the corrected blank absorbance at 595 nm for each standard solution or protein sample against its concentration in µg/mL.
c. Use the standard curve and determine the protein concentration of each unknown protein sample.

Table 1 : Volume for test tube or micro plate assay

Assay	test tube	micro plate	micro assay
Measurement range	0.1 - 1.0 mg/mL	0.1 - 1.0 mg/mL	1.0 – 25 µg/mL
Protein standard or sample solution	20 µL	4 µL	500 µL
Product No. P2575	1 mL	200 µL	500 µL
Reaction	Incubate for 5 minutes at room temperature.		
Measurement	Within 1 hour, measure absorbance at 595 nm.		

Table 2 : Compatible substance concentrations in protein sample

Substances at the following concentrations in the sample solutions do not affect the reaction results.	
Substance	concentration
Buffers	
Glycine	100 mM
Tris	2 M
HCl	100 mM
HEPES	100 mM
MES	100 mM
MOPS	100 mM
PIPES	100 mM
Glucose	1 M
Sucrose	25 %
Fructose	1 M
Salts	
$(NH_4)_2SO_4$	1 M
KCl	1 M
$MgCl_2$	50 mM
$CaCl_2$	10 mM
$NiCl_2$	10 mM
$ZnCl_2$	10 mM
NaCl	2 M
NaOH	100 mM
NaH_2PO_4	500 mM
NaN_3	0.50 %
Chelating Agents	
EDTA	100 mM
EGTA	10 mM
Sodium citrate	200 mM
Solvents	
Acetone	10 %
DMSO	10 %
Ethanol	10 %
Methanol	10 %
Glycerol	10 %
Detergents	
SDS	0.05 %
Triton X-100	0.10 %
Tween-20	0.10 %
Denaturants	
DTT	100 mM
Glutathione	1 mg / mL
2-Mercaptoethanol	1 M
Guanidine-HCl	1 M
Urea	3 M

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