Product information

Residual SDS Detection Kit

Catalog #: BSP055
Size: 100 Assays
Storage: 18 to 25°C

Description:

Bio Basic's Residual SDS Kit provides the necessary reagents for the detection and estimation of SDS (sodium dodecyl sulfate) in a sample containing proteins or other agents. The working range of the kit is 0.002%-0.014% SDS.

Kit Components:

Description	Size
Solution A	10 ml
Solution B	150 ml

Additional items required (not provided):

2.0 ml centrifuge tubes
Microplate reader or standard spectrophotometer

Protocol:

SDS Standard Curve Set-up

1. Weigh 0.01G of SDS powder into 10mL ddH2O to make a **0.1% SDS** stock solution for creation of standards.
2. For SDS estimation, prepare an appropriate calibration plot with known concentrations of SDS ranging from 0.002% to 0.014%.

   Prepare the below SDS dilution standards in 2 ml micocentrifuge tubes:

Dilution #	0	1	2	3	4	5	6	7
ddH2O (ul)	1000	980	960	940	920	900	880	860
SDS 0.1% Stock Solution (ul)	0	20	40	60	80	100	120	140
Final SDS Concentration	0	0.002%	0.004%	0.006%	0.008%	0.010%	0.012%	0.014%

3. Transfer 50ul from each of above SDS solutions into 8 new 2 ml microcentrifuge tubes.
4. Add 50ul of Solution A into tubes from Step 3. Mix well.
5. Add 1.5mL of solution B to each tube from step 3, mix vigorously by vortexing for 30 seconds to 1 minute.
6. Allow the tube to stand at room temperature for 5 minutes. Spin at 5000 rpm (2000 Xg) for 5 min.
7. Carefully transfer 150 ul of the supernatant to a 96-well plate.
8. Blank the microplate reader and then measure the optical density at OD 499nm.

note: If a plate reader is not available, a spectrophotometer can be used. Ensure to use cuvettes that are compatible with chloroform (e.g. quartz cuvettes).

9. Plot standard curve where X-axis is % of SDS concentration and Y-axis is OD499 reading.

Detection of SDS in samples

1. Dilute samples accordingly so that estimated SDS falls within range of above standard curve.
2. Prepare 3 x 2mL microcentrifuge tubes. Add 50ul of diluted samples to tube 1 and tube 2. Add 50ul of ddH2O as a blank control to tube 3.
3. Add 50ul of Solution A into tubes from Step 2. Mix well.
4. Add 1.5mL of solution B, vortex vigorously by vortexing for 30 seconds to 1 minute.
5. Allow the tube to stand at room temperature for 5 minutes. Spin at 5000 rpm (2000 Xg) for 5 min.
6. Carefully transfer 150ul of the supernatant to a 96-well plate.
7. Blank the microplate reader and then measure the optical density at OD 499nm.

note: If a plate reader is not available, a spectrophotometer can be used. Ensure to use cuvettes that are compatible with chloroform (e.g. quartz cuvettes).

8. Use the following formula to calculate SDS concentrations:

   % of SDS in sample = % of diluted sample **X** Dilution factor

Important Notes:

1. It is important to perform experiments in the fumehood.
2. Presence of trichloroacetic acid in the sample may interfere with accuracy of assay results. Please check if the sample is free of trichloroacetic acid before proceeding.
3. When SDS concentration is below 0.002%, many other factors including salt, amino acid, proteins can affect the assay performance and may give inaccurate results.
4. Presence of DNA may affect SDS estimation. However, when DNA is < 1ng, there is very little impact on the assay.