ProFoldin
10 Technology Drive, Suite 40, Number 188
Hudson, MA 01749-2791 USA
Phone: (508) 735-2539 **FAX: (508) 845-9258**
www.profoldin.com info@profoldin.com

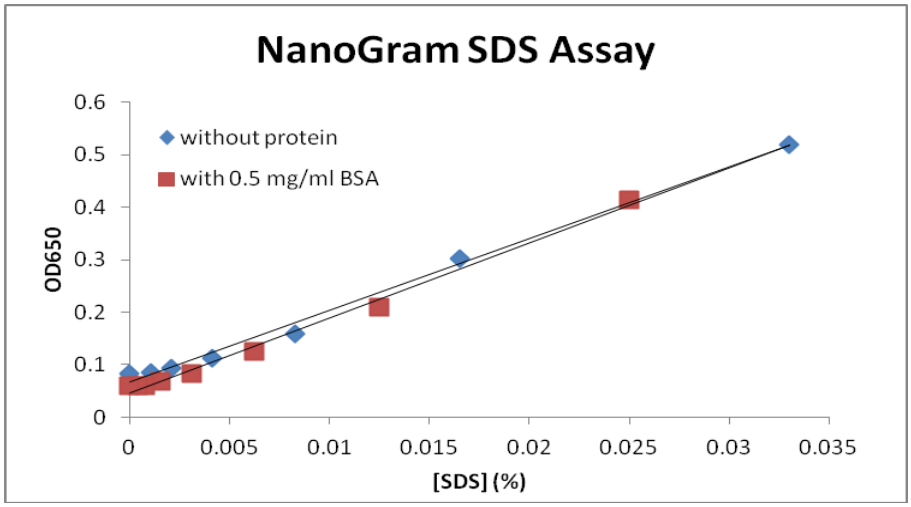
INSTRUCTIONS

ProFoldin
NanoGram SDS Assay Kit

CATALOG NUMBER **SDS200**

INTRODUCTION

SDS (sodium dodecyl sulfate or sodium lauryl sulfate) is a common detergent and protein denaturant. In laboratories, SDS is broadly used in cell lysis, protein analysis (SDS-PAGE) and membrane protein folding studies. In industry, SDS is used as a highly effective surfactant and is a key component in many cleaning products. SDS strongly binds to proteins and changes the protein conformation that affects the protein function. Complete removal of SDS in a protein solution is essential to fully recover the protein function and stability. The NanoGram SDS Assay Kit (Catalog number SDS200) is designed for measurement of nanograms of SDS. The assay sensitivity is 0.002% SDS which is about 100 fold lower than its CMC value. The assay is based on increase of light absorbance at 650 nm of the dye MPS6 in the presence of SDS. The assay kit can be used for measurements SDS concentrations in samples with or without proteins. The assay is compatible with most biochemical buffers. It is not compatible with phosphate buffers. Inorganic phosphate interferes with the assay.



The NanoGram SDS Assay Kit (catalog number SDS200) includes 20 ml of MPS6 Dye. It is for measurement of 200 samples using 96-well plates. Cuvettes may also be used for measurements.

ASSAY PROTOCOL

The following assay protocol is based on using a 96-well plate for the measurement. The sample volume is 100 µl and the final assay volume is 200 µl. For 384-well plate assays, the sample volume is 40 µl and the final assay volume is 80 µl. For assays using cuvette, the sample volume is 500 µl and the final assay volume is 1000 µl.

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STANDARD CURVE

1. **Sample preparation:** Prepare 100 µl of SDS solutions in the wells of a transparent 96-well plate with a two-fold serial dilution from 0.05% to zero in water or a non-phosphate buffer.

2. **Detection:** Mix 100 µl of Dye MPS6 with 100 µl of the SDS solutions for 5 min and read the light absorbance at 650 nm (OD_{650}).

3. **Data Analysis**: Plot the OD_{650} values with the SDS concentration **[SDS]** to generate the linear standard curve.

$$OD_{650} = \mathbf{a}\ \mathbf{[SDS]} + \mathbf{b}$$

Where the OD_{650} values are from experimental data, the **a** and **b** values are from the linear fitting between the OD_{650} values and the SDS concentrations.

UNKNOWN SAMPLES

Follow the same procedure to measure the OD_{650} values from the unknown samples. Calculate the SDS concentrations in the unknown samples using the OD_{650} values from the unknown samples and the **a** and **b** values from the standard curve.

$$\mathbf{[SDS]} = (OD_{650} - \mathbf{b}) / \mathbf{a}$$

RELATED PRODUCTS

CMC1000	Detergent Critical Micelle Concentration (CMC) Assay Kit
DAK1000	Detergent Assay Kit
OG100K	Beta Octyl Glucoside Assay Kit
NG100K	Beta Nonyl Glucoside Assay Kit
LIP1000	MicroGram Lipid Assay Kit
NPA1000	NanoMolar Phosphate Assay Kit
PPD1000	MicroMolar Polyphosphate Assay Kit
HIS200	MicroMolar Histidine Assay Kit
CYS200	MicroMolar Cysteine Assay kit
PEP200	Peptide Assay Kit
PAA100K	MicroMolar Primary Amine Assay Kit
CAK1000	Coenzyme A Assay Kit
EDTA200	MicroMolar EDTA Assay kit
DTT200	MicroMolar DTT Assay kit
MAD100K	MicroMolar ADP Assay kit
MUD100K	MicroMolar UDP assay kit
MCA1000	MicroMolar Copper Assay Kit
NZA1000	NanoMolar Zinc Assay Kit
NMA1000	NanoMolar Nickel / Cobalt Assay Kit
CLA100	MicroMolar Chloride Assay Kit
MSA200	MicroMolar Sulfate Assay Kit
PST100	Penicillin Drug Stability Test Kit
CPT200K	MicroMolar Cisplatin Assay Kit

For more information of concentration assays, please visit www.profoldin.com.