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

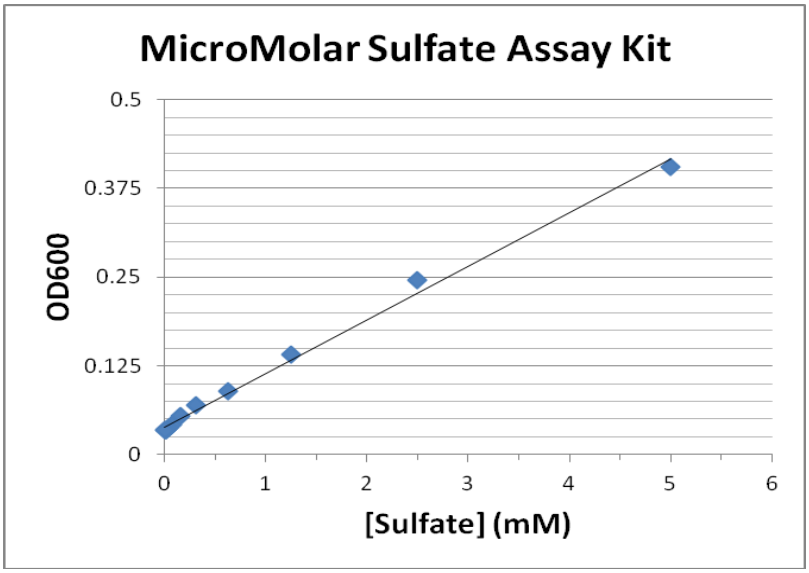
INSTRUCTIONS

ProFoldin
MicroMolar Sulfate Assay Kit

CATALOG NUMBER **MSA200**

INTRODUCTION

Sulfate plays key roles in metabolism of many important biomolecules including steroids, neurotransmitters, bile acids, glycosaminoglycans and cartilage proteoglycans. Sulfate is also a common ingredient in many pharmaceutical products. The MicroMolar Sulfate Assay Kit (Catalog number MSA200) is designed for measurement of sub-millimolar to millimolar concentrations of sulfate. The assay is based on increase of the light scattering at 600 nm of the sulfate precipitation with Reagent BP. The assay kit can be used for measurements of free sulfate concentrations in biological samples, biochemical reactions, pharmaceutical products and environmental water samples.



The MicroMolar Sulfate Assay Kit (Catalog number MSA200) includes 40 ml of Reagent BP. It is for assays 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 300 µl. For 384-well plate assays, the sample volume is 30 µl and the final assay volume is 90 µl. For assays using cuvette, the sample volume is 333 µl and the final assay volume is 999 µl.

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STANDARD CURVE

1. **Sample preparation:** Prepare 100 µl of sulfate solutions in the wells of a transparent 96-well plate with a two-fold serial dilution from 5 mM to zero in a 10 mM HEPES, pH 7.4 buffer.

2. **Detection:** Mix 200 µl of Reagent BP with 100 µl of the sulfate solutions for 5 min and read the **OD_{600}**.

3. **Data Analysis**: Plot the **OD_{600}** and the sulfate concentration **[Sulfate]** to generate the linear standard curve.

$$\mathbf{OD_{600} = a\ [Sulfate] + b}$$

Where the **OD_{600}** values are from experimental data, the **a** and **b** values are from the linear fitting between the **OD_{600}** values and the sulfate concentrations.

UNKNOWN SAMPLES

Follow the same procedure to measure the **OD_{600}** values from the unknown samples. Calculate the sulfate concentrations in the unknown samples using the **OD_{600}** values from the unknown samples and the **a** and **b** values from the standard curve.

$$\mathbf{[Sulfate] = (OD_{600} - b) / a}$$

RELATED PRODUCTS

HIS200	MicroMolar Histidine Assay Kit
CYS200	MicroMolar Cysteine Assay kit
PEP200	Peptide Assay Kit
MAD100K	MicroMolar ADP Assay Kit - 100 assays
MUD100K	MicroMolar UDP assay kit - 100 assays
MCA1000	MicroMolar Copper Assay Kit
NZA1000	NanoMolar Zinc Assay Kit
CMC1000	Detergent Critical Micelle Concentration (CMC) Assay Kit
DAK1000	Detergent assay kit
SDS200	NanoGram SDS Assay Kit
LIP1000	MicroGram Lipid Assay Kit
MPA3000	MicroMolar Phosphate Assay Reagent
PPD1000	MicroMolar Polyphosphate Assay Kit
EDTA200	MicroMolar EDTA Assay kit
CLA100	MicroMolar Chloride Assay Kit
DTT200	MicroMolar DTT Assay kit
PAA100K	MicroMolar Primary Amine Assay Kit
CPT200	MicroMolar Cisplatin Assay Kit

For more concentration assays of various biochemical molecules and inorganic ions, please visit our website at www.profoldin.com.