USER GUIDE

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Version 2.0

水杨酸盐检测试剂盒
Salicylate Assay Kit

Cat.No. MSY5642 **Size :** 100 tests

Technical literature is available at : www.mesgenbio.com.
E-mail MesGen Technical Services if you have questions on use of this system : tech@mesgenbio.com

Description

Salicylate is a salt or ester of salicylic acid, and can be found naturally in some plants. It is also a metabolic byproduct of aspirin (acetylsalicylic acid) and salicylate concentrations are often tested in blood or urine in cases of suspected overdose. Salicylic acid is commonly used in skincare products as an exfoliating ingredient, and in other consumer products as a preservative. Salicylate Assay kit provides a convenient and reliable means to measure salicylate. In the assay, salicylate complexes with ferric chloride to create a colored compound that can be measured at 526 nm. This assay can be used with a variety of samples and is simple, sensitive, and adaptable to high-throughput screening.

Key features

Fast and sensitive. Linear detection range: 20 μM to 20 mM salicylate with 50 μL sample (96-well).
Convenient. The procedure involves adding a single working reagent.
High-throughput. "Add-mix-read" type assay. Can be readily automated as a high-throughput 96-well or 384-well plate assay for thousands of samples per day.

Applications

Direct Assays: salicylate in biological samples (e.g. serum, plasma, urine)
Consumer Products: salicylate in beauty products, mouthwash, etc.

Kit contents (100 tests in 96-well plates)

Reagent: 50 mL Standard: 800 μL (100 mM salicylate)

Storage conditions

The kit is shipped at room temperature (RT). Store kit at 2ºC-RT.

Shelf life

12 months after receipt.

Procedures

Sample Preparation: (1) Samples should be transparent and precipitate-free. If samples are cloudy or have precipitates, centrifuge 5 min at 14,000 x g and use clear supernatant for assay. (2) Serum, plasma,urine, and other liquid samples can be used directly. (3) If samples contain high levels of proteins (i.e. plasma), they may precipitate out of solution due to acidity of Reagent. In this case, combine the sample and the Reagent in a microcentrifuge tube and mix well, then centrifuge it and use the supernatant in the assay.

Procedure using 96-well plate

1. Standards. Prepare 200 μL of 20 mM Premix by mixing 40 μL of the 100 mM Standard and 160 μL of dH_2O. Dilute standards in 1.5-mL centrifuge tubes as described in the Table below.

No	Premix + dH_2O	Salicylate (mM)
1	100 μL + 0 μL	20
2	80 μL + 20 μL	16
3	60 μL + 40 μL	12
4	50 μL + 40 μL	10
5	20 μL + 80 μL	4
6	10 μL + 90 μL	2
7	5 μL + 95 μL	1
8	2 μL + 98 μL	0.4
9	1 μL + 99 μL	0.2
10	0.5 μL + 99.5 μL	0.1

2. Transfer 50 μL of standards into separate wells of a clear, flat-bottom 96-well plate. Transfer 50 μL of a sample into a single well, as well as 50 μL into another well for the sample blank.
3. Add 50 μL of Reagent to each Standard and Sample well. Add 50 μL of deionized water to the Sample Blank well. Tap plate lightly to ensure the contents of the wells are mixed evenly.
4. Read optical density at 526 nm.

Calculation

Subtract the Blank value from the standard values and plot the DOD against standard concentrations.

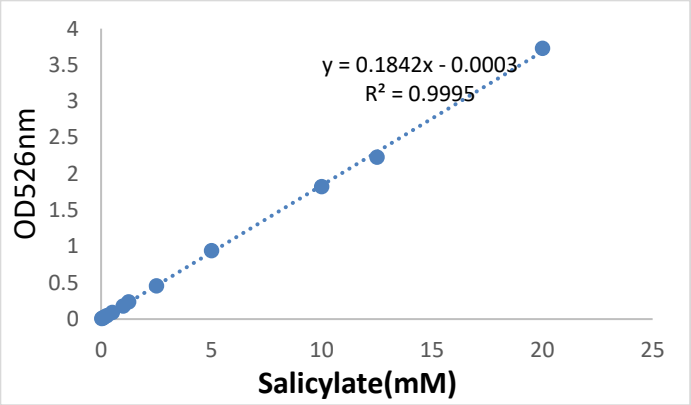
Note: If the calculated salicylate concentration of a sample is higher than 20 mM, dilute sample in water and repeat the assay.

Sample compatibility

Salicylate was spiked into rat plasma, rat serum, human serum, and human plasma, and human urine, and was assayed using the 96-well plate assay protocol. EDTA, Heparin, Citrate, and RIPA buffer do not interfere with this assay. Beauty products and mouthwash are also compatible with this kit.

Note:

Chemicals in Sample with phenolic hydroxyl group would interfere with this assay greatly owing to combination between ferric chloride and phenolic hydroxyl group.



Salicylate Standard Curve in dH_2O.

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