



Millon's Reagent

R097

Intended use

Millon's reagent is an analytical reagent used to detect the presence of tyrosine, the only amino acid containing a phenol group.

Composition**

Ingredients

Mercuric Nitrate	160.0 gm
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Conc. Nitric acid	400.0 ml
Distilled water	600.0 ml

**Formula adjusted, standardized to suit performance parameters

Directions

1. Add 1ml of Millon's reagent to 1-2ml of test solution.
2. If desired heat the solution till it boil.
3. Observe the pink to brick red precipitate or solution which indicate positive test.

Principle And Interpretation

In Millon's test, the phenol group of tyrosine is first nitrated by nitric acid in the test solution. Then the nitrated tyrosine complexes mercury (I) and mercury (II) ions in the solution to form a pink to brick red precipitate or a solution. Some proteins containing tyrosine initially forms a white precipitate that turns red when heated, while others form a red solution immediately. Both results are considered positive.

Type of specimen

Biological sample

Specimen Collection and Handling

Follow appropriate techniques for handling specimens as per established guidelines

Warning and Precautions

In Vitro diagnostic use only. Read the label before opening the container. Wear protective gloves/protective clothing/ eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. Millon's test is specific for phenolic compounds, so that other proteins must be confirmed by other tests for proteins such as the biuret test and the ninhydrin reaction.
2. The presence of chlorine in the solution might interfere with the reaction; thus, the test cannot be performed on a sample containing chlorides.

3. The formation of a white or yellow precipitate might be observed immediately after the addition of Millon's reagent due to the denaturation of proteins by mercuric ions.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature

Quality Control

- **Appearance** : Colourless to light greenish yellow sloution
- **Clarity** : Clear solution with no insoluble particles .
- **Test** : Add 1ml of Millon's reagent to 1-2ml of test solution. If desired heat the solution till it boil.
- **Results** : Presence of proteins (tyrosine, the only amino acid containing a phenol group) absence of protein

Storage and Shelf Life

Store between 10-30°C in tightly closed container and away from bright light. Use before expiry date on label. On opening, product should be properly stored in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques.

Reference

1. Walsh, Edward O'Farrell (1961). An Introduction to Biochemistry. London: The English Universities Press Ltd. pp. 406 – 407. OCLC 421450365.
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
3. Jorgensen, J.H., Pfaller , M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual.



Storage temperature



Do not use if package is damaged



In vitro diagnostic medical device



CE Marking



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Revision : 01/2022

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