

Category : Patient Care
Title : Procedure for estimation of Aspirin in human serum by Spectrophotometer

SOP No. and Version: TDM 15/01

Date first effective: 1st January 2025

Review date: 31st December 2025

Department of Clinical Pharmacology, 1st Floor, New MS Building,
Seth GS Medical College & KEM Hospital, Parel, Mumbai 400012.

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1. Purpose:

This SOP describes the technique for qualitative and quantitative estimation of Aspirin in human Serum by Spectrophotometer

2. Scope:

This SOP is limited to estimation of aspirin in $\mu\text{g/mL}$ in human Serum by Spectrophotometer

3. Responsibilities:

The Head of the department is responsible for the medical care and welfare of all patients pertaining to TDM of aspirin. The task of performing estimation of Spectrophotometer will be delegated to trained personnel (laboratory technician) who will perform this function.

4. Applicable rules, regulations and guidelines

- ICMR Good Clinical Laboratory Practices Guidelines 2021 (<http://icmr.nic.in/guidelines/GCLP.pdf>)

5. Reference to other applicable SOPs

- SOP No.24/02: Biomedical waste management.
- SOP No. TDM01/02: Collection and separation blood plasma/serum for TDM

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6. Detailed instructions

1. Preparation of standard and calibrator

a. Preparation of Stock Standard (Aspirin 1mg/mL):

10g of pure powder of Aspirin + 10 mL of 1:1 distilled water: methanol

➤ Preparation of plasma

add 100 μ L Powder of clean test tube and add whole blood mix well after 5-10 min centrifuge 3500 rpm 10 min and collect plasma and transfer to clean tube

➤ Preparation of Reagent & Chemical Solvent

a. Ferric Mercuric reagent-

- 10g of mercuric chloride dissolved in small amount of distilled water- Beaker 1
- 10g of ferric nitrate dissolved in 30 ml of 1N hydrochloride acid (HCl) – Beaker 2
- Mix both the beakers (Beaker 1 & Beaker 2) in 250mL volumetric flask and make up to the mark by distilled water.

2. Preparation of plasma standards:

Plasma Standard	10 μ g/mL	20 μ g/mL	40 μ g/mL	100 μ g/mL
Blank Plasma	500 μ L	500 μ L	600 μ L	1800 μ L
Aspirin 1mg/mL				200 μ l mix well and transfer to
100 μ g/mL(stock)	500 μ L	500 μ L	400 μ L	

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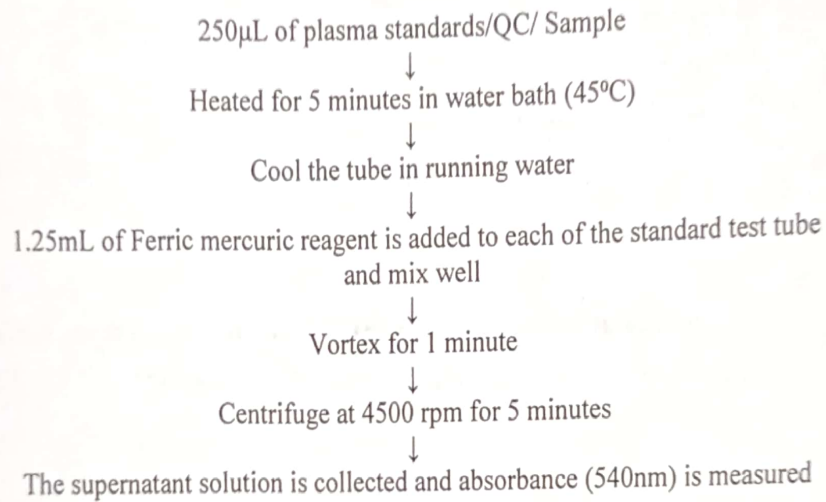
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3. Extraction procedure



4. Spectrophotometer Conditions

a. Wavelength: 540 nm

5. Abbreviations:

a. SPECTO= Spectrophotometer