Inverted Intestine - Supplied Absorption Data

Experiment 12 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To analyse the assigned inverted intestine - supplied absorption data experiment or teaching dataset.

Principle

The syllabus model estimates transport across an intestinal preparation. This activity interprets supplied demonstration data; no animal dissection or tissue preparation is performed.

Requirements

- Institution-assigned experimental method and coded in-vitro or supplied pharmacokinetic data.
- Calibrated analytical readings or supplied concentration table, calculator and plotting tools.

Procedure

1. Read the demonstration

Record assigned donor/receiver compartments, timing and model limitations from the diagram.

2. Calculate amounts

Use supplied concentrations and receiver volumes, with the stated sampling correction.

3. Compare transport

Calculate the assigned transport rate or fractional transfer on a common basis.

4. Assess the model

Discuss tissue integrity, recovery and the limitation of extrapolating a prepared-tissue result to a patient.

Observations and Record

Record component	Value
Supplied model code	_____
Concentration / volume / time	_____
Transferred amount	_____
Rate or fraction	_____
Integrity / recovery limitation	_____

Worked Example

The numbers below are illustrative; enter your own observations in the record.

- Transferred amount = concentration × receiver volume. Fraction transferred = transferred amount / initial donor amount.
- Example: 2 micrograms/mL × 5 mL = 10 micrograms; from an initial 100 micrograms this is 10%, before any required correction.

Result

Dataset / method: ____. Calculated outcome and units: ____. Comparison: ____. Assumption or limitation: ____.

Precautions

- Record units, sampling times, dilution and the assumptions of the selected model.
- Use supplied human/animal data or the approved in-vitro teaching method; no new human/animal dosing or surgical preparation is prescribed.
- Keep an illustrative calculation separate from the actual result and do not use it as an individual patient dosing instruction.

Viva Questions and Answers

1. Why state model assumptions?

The derived parameter is valid only when the data and model satisfy them.

2. What accompanies a pharmacokinetic result?

Its units, dataset, calculation method and relevant limitation.

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