

The preferred solid dosage form for mebeverine is typically a sustained-release capsule. Rationale for Sustained-Release Capsules

- o Controlled Release: Mebeverine is an antispasmodic used primarily for the treatment of irritable bowel syndrome (IBS) and other gastrointestinal disorders. A sustained-release capsule ensures a gradual release of the drug, maintaining consistent plasma levels over a prolonged period.
- o Reduction in Dosage Frequency: Sustained-release capsules reduce the frequency of administration (usually to twice daily instead of thrice daily for immediate-release tablets).
- o Minimized Side Effects: A controlled release reduces the risk of peak plasma concentrations that can cause dose-related side effects, such as nausea or dizziness.

Physicochemical and Pharmacokinetic Properties of Mebeverine

- o Short Half-Life: Mebeverine has a relatively short half-life (~2 hours), which makes it ideal for sustained-release formulations to prolong its action.
- o Enhanced Patient Comfort: By avoiding frequent dosing, sustained-release formulations improve the quality of life for patients with chronic conditions like IBS.
- o Sensitive to First-Pass Metabolism: Mebeverine undergoes extensive first-pass metabolism, forming active metabolites. Sustained-release formulations help reduce fluctuations in drug levels and ensure a steady therapeutic effect. This choice is made to enhance its therapeutic efficacy and improve patient compliance. This increases convenience and adherence to the prescribed regimen.

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