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विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY
सत्यमेव जयते

BITS Pilani
TECHNOLOGY
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PENDING

(IN202311059019) A mucoadhesive gastric patch

Medium	Flux ($\mu g/cm^2/h$)	Lag time (h)	Permeability coefficient ($x10^{-5}$ cm^2/h)	Amount in tissue (μg)
SGF	0.45 ± 0.140	2.69 ± 0.197	8.99 ± 2.80	101.83 ± 20.56
PBS	0.27 ± 0.049	3.96 ± 0.56	5.32 ± 0.98	93.12 ± 30.09

NEED

Prolonged, efficient drug delivery to target sites in the stomach is often hindered by challenges such as inconsistent release rates and adverse side effects. Current methods lack precise control, which delays treatment effectiveness.

MARKET ANALYSIS

The global drug delivery market is projected to grow at a CAGR of 11.2%, reaching $1,680 billion by 2033, driven by increasing demand for effective, patient-friendly treatments (source: Grand View Research, 2023).

TECHNOLOGY OVERVIEW

The muco-adhesive gastric patch allows for prolonged, controlled drug release directly to a target stomach site. With biodegradable polymers and a hydrophobic backing, it ensures unidirectional delivery, reducing side effects and improving therapeutic outcomes.

Target Industries

Pharmaceutical industry, healthcare, medical device manufacturers. , Pharmaceutical companies, contract manufacturers of drug delivery devices, healthcare providers specializing in chronic conditions, medical research organizations focused on drug formulation.

TECHNOLOGY KEY FEATURES

Muco-adhesive layer for adherence to stomach tissue, hydrophobic backing for unidirectional release, biodegradable polymers for controlled delivery, efficient drug release for improved therapeutic effectiveness, and easy oral administration.

AT A GLANCE

- SDG 3 (Good Health and Well-Being), SDG 9 (Industry, Innovation, and Infrastructure)

Read more here

Technology is available for licensing/ co-development.

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