ENHANZE® drug delivery technology may enable and optimize subcutaneous (SC) drug delivery for appropriate co-administered therapeutics, which may improve patient experiences,¹,² increase health system efficiencies,³-⁵ and optimize brand revenue.⁶
ENHANZE® drug delivery technology utilizes rHuPH20, Halozyme’s proprietary recombinant human hyaluronidase PH20. rHuPH20 works locally and transiently to degrade hyaluronan (HA) in the extracellular matrix (ECM) of the SC space. HA, a naturally occurring glycosaminoglycan found throughout the body, creates resistance to bulk fluid flow in the ECM that limits large-volume SC drug delivery, dispersion, and absorption.

By degrading HA in the ECM at the local injection site, rHuPH20 enables SC bulk fluid flow and increased dispersion and absorption of co-administered therapeutics.

rHuPH20 is approved, sold, and/or reimbursed in 50+ countries through:

- RITUXAN HYCELA®
- MABTHERA® SC
- RITUXAN® SC
- HERCEPTIN® SC
- HYQVIA®

Products coformulated with ENHANZE® drug delivery technology have received widespread endorsements from healthcare system stakeholders:
Optimization in Your Hands

Increasing Health System Efficiencies

Conversion from intravenous (IV) to SC delivery with ENHANZE® drug delivery technology may potentially:

- Reduce administration and nursing time associated with IV delivery\(^1,4,5\)
- Increase available chair time and patient throughput\(^4,5\)
- Decrease healthcare costs and reduce patient management needs\(^7\)

Optimizing Product Revenue

ENHANZE® drug delivery technology may enable revenue optimization for coformulated therapeutics through:

- Lower cost of goods/decreased amount of drug product needed\(^8\)
- Rapid post-launch adoption\(^9\)
- Extended patent protection

Improving Patient Experiences

ENHANZE® drug delivery technology may enable an improved patient experience by potentially:

- Reducing administration time and frequency\(^1,2,10,11\)
- Reducing pain/discomfort\(^1,2\)
- Reducing some side effects\(^12\)
- Reducing induration (bleb formation)\(^7,13\)
- Enabling at-home administration\(^1,7,11\)
Guidance at Your Fingertips

Streamlining the Drug Development Process

To help partners efficiently navigate the drug development process, comprehensive services and SC expertise are provided by the Alliance Support team.

Alliance Support has a proven track record of streamlining development for potential partners by enabling:

- Rapid entry into Phase 1 trials in less than 1 year after deal signing, on average.9
- Collection of meaningful patient clinical trial data within 1 year thereafter.9
- Potential regulatory approval in less than 5 years from first trial (HERCEPTIN® SC).9

Alliance Support spans the drug development process, from the preclinical stage through commercialization, and includes:

- Formulation development assistance
- Clinical development strategy
- Comprehensive data packages
- Preclinical and clinical drug product
- Preclinical experiments and predictive modeling
- Regulatory expertise
Possibilities Within Your Grasp

Overcoming Drug Delivery Barriers

ENHANZE® drug delivery technology may help co-administered therapeutics overcome administration, time, and volume barriers by potentially enabling:

- IV to SC administration conversion and SC delivery optimization\(^{13-15}\)
- Shortened dose administration time, from hours to minutes
  - HERCEPTIN® SC reduced administration time compared to IV-administered HERCEPTIN®, from 30-90 minutes to 2-5 minutes\(^{16,17}\)
  - RITUXAN HYCELA®/MABThera® SC/RITUXAN® SC reduced administration time compared to IV-administered RITUXAN®, from as long as 4 hours to as few as 5-7 minutes\(^{18,19}\)
- Reduced administration frequency (eg, from weekly to monthly), as well as decreased number of injections/doses
  - HYQVIA® is dosed in a single, monthly SC infusion, compared to weekly, multisite infusions required for SC immunoglobulin formulated without rHuPH20\(^{11,20,21}\)
- Large volumes for rapid SC injections (~ 2-20 mL\(^{9,16,18}\) and even larger SC infusions (up to 600 mL\(^{20}\)

Improving PK Profiles

ENHANZE® drug delivery technology may enable potential improvements to the pharmacokinetic (PK) profiles of co-administered drugs, including\(^{22,23}\):

- Improved absorption
- Increased bioavailability
- Accelerated \(T_{\text{max}}\)
- Increased \(C_{\text{max}}\)
- Decreased PK variability, which may also improve efficacy and safety
Learn how an ENHANZE® drug delivery technology licensing agreement may benefit your product pipeline.

Contact the Business Development Team at bd@halozyme.com

Current Partners

Roche | Shire | Pfizer | AbbVie | Lilly | Janssen | Bristol-Myers Squibb | Alexion

References