



34th Annual J.P. Morgan Healthcare Conference

# Platforms for Growth: Building a Premier Oncology Biotech

Dr. Helen Torley  
President & CEO

January 12, 2016

# Forward-Looking Statements

All of the statements in this presentation that are not statements of historical facts constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Examples of such statements include future product development and regulatory events and goals, anticipated clinical trial results and strategies, product collaborations, our business intentions and financial estimates and results. These statements are based upon management's current plans and expectations and are subject to a number of risks and uncertainties which could cause actual results to differ materially from such statements. A discussion of the risks and uncertainties that can affect these statements is set forth in the Company's annual and quarterly reports filed from time to time with the Securities and Exchange Commission under the heading "Risk Factors." The Company disclaims any intention or obligation to revise or update any forward-looking statements, whether as a result of new information, future events, or otherwise.

## Our Focus

To discover, develop and commercialize biopharmaceuticals that target the **extracellular matrix** and **tumor microenvironment**



# Two-Pillar Strategy For Growth

## ENHANZE™ Platform

Licensing/Royalty Agreements Based On  
Proprietary Enzyme, rHuPH20



Baxalta

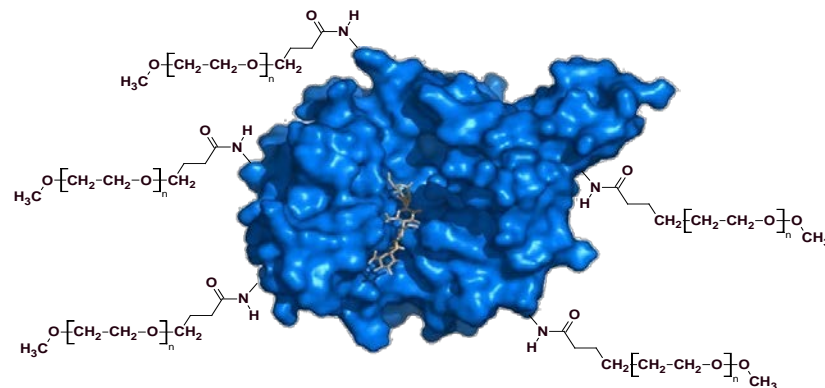


abbvie

Lilly

## PEGPH20<sup>1</sup> Platform

Investigational New Oncology Drug  
Studying pan-tumor potential



PEGylated form of rHuPH20

NOTE: 1) PEGPH20 is an investigational new drug Safety and efficacy profile have not been established; it is not currently available for commercial distribution.

# Significant Milestones Achieved in 2015

## PEGPH20 Program

- ✓ Interim clinical data at ASCO
- ✓ Reached targeted enrollment in Study 202
- ✓ Expanded pan-tumor study of PEGPH20 in clinic
- ✓ Formed clinical collaboration with Eisai
- ✓ Selected Ventana for CDx development

## ENHANZE Platform

- ✓ Substantial ramp in royalties
- ✓ AbbVie collaboration agreement
- ✓ Lilly collaboration agreement
- ✓ Janssen in clinic with daratumumab
- ✓ Pfizer in clinic with rivipansel

# A Journey of Transformation and Growth

## Establishing the Foundation for Growth

2014 - 2016

- Interim PEGPH20 data presented

- Value-generating licensing agreements

## Investing for Growth

2016 - 2018

- Initiate PEGPH20 pivotal trial in pancreatic cancer
- Readout of Ph. 2 pancreatic study
- Clinical studies in multiple tumors

- Expand ENHANZE franchise value

## Accelerating Long-Term Growth

2018 - 2020

- Multiple Phase 2 readouts possible
- Potential regulatory submissions: PEGPH20 in pancreatic cancer

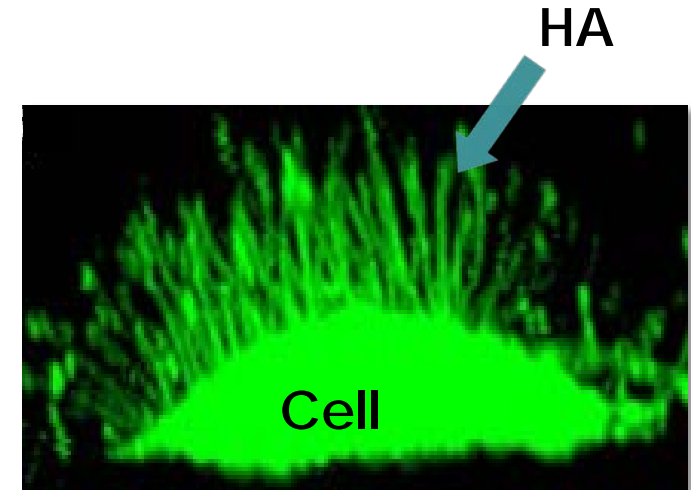
- Expand ENHANZE franchise value

# PEGPH20 Goal: Improve Targeting Of Co-Administered Cancer Therapies

# Hyaluronan: A Physical Barrier To Cancer Therapy Access

## Hyaluronan (HA):

- Glycosaminoglycan, a chain of natural sugars that accumulate around cancer cells
- In animal models helps create a barrier to cancer therapeutics
  - Increased tumor interstitial pressure<sup>1,2</sup>
  - Vasculature compression<sup>3,4</sup>
- In animal models can prevent host immune cell access to malignant cells

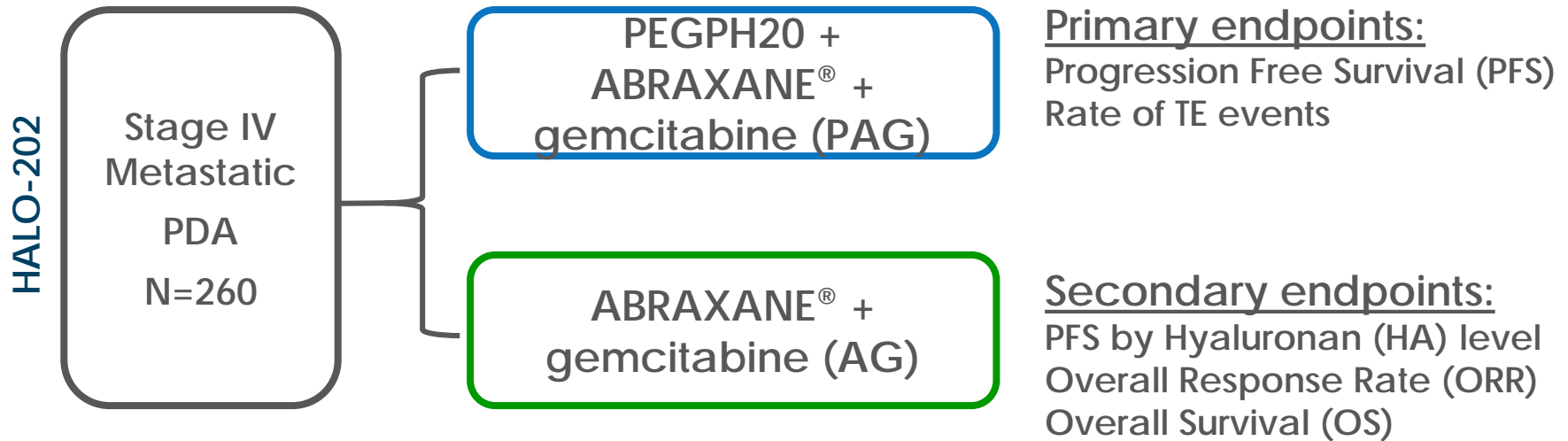


Protective 'spikes' of HA protrude from high-HA tumor cell in culture

1. Brekken, et al. *Anticancer Res.* 2000,20:3503. 2. Provenzano and Hingorani, *Br. J. Cancer.* 2013,108:1. 3. Thompson, et al. *Mol Cancer Ther.* 2010,9:3052. 4. Stylianopoulos, et al. *PNAS.* 2013,110:18632. Kultti, et al. *JBC.* 2006,281:15821.



# HALO 202 | Pancreatic: Target Enrollment Achieved

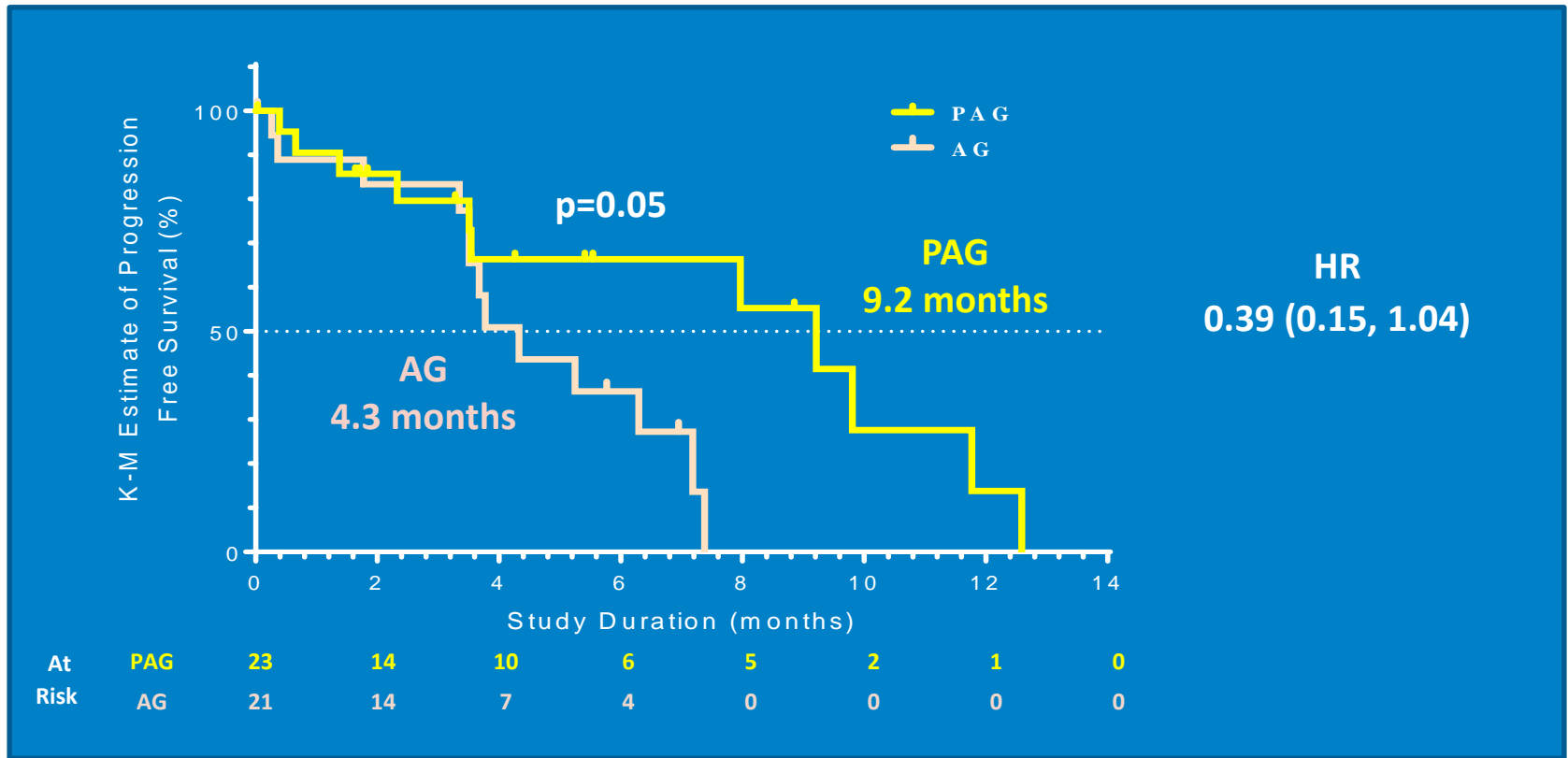


<b>Total Sites</b>	45 (US only)
<b>Enrollment Stage 1 (interim data)</b>	146 patients
<b>Target enrollment Stage 2</b>	114 patients
<b>Estimated top line data</b>	Q4 2016

# HALO 202 | Pancreatic: Stage 1 Interim Results

Presented at ASCO 2015<sup>1</sup>

## PFS in HA-High<sup>2</sup> Patients



1) Hingorani, et al. ASCO 2015 (Abstract #4006).

2) HA measured using Halozyme prototype companion diagnostic.

# HALO 202 | Pancreatic: Stage 1 Overall Safety Profile Treatment Related AEs >25%<sup>1</sup>

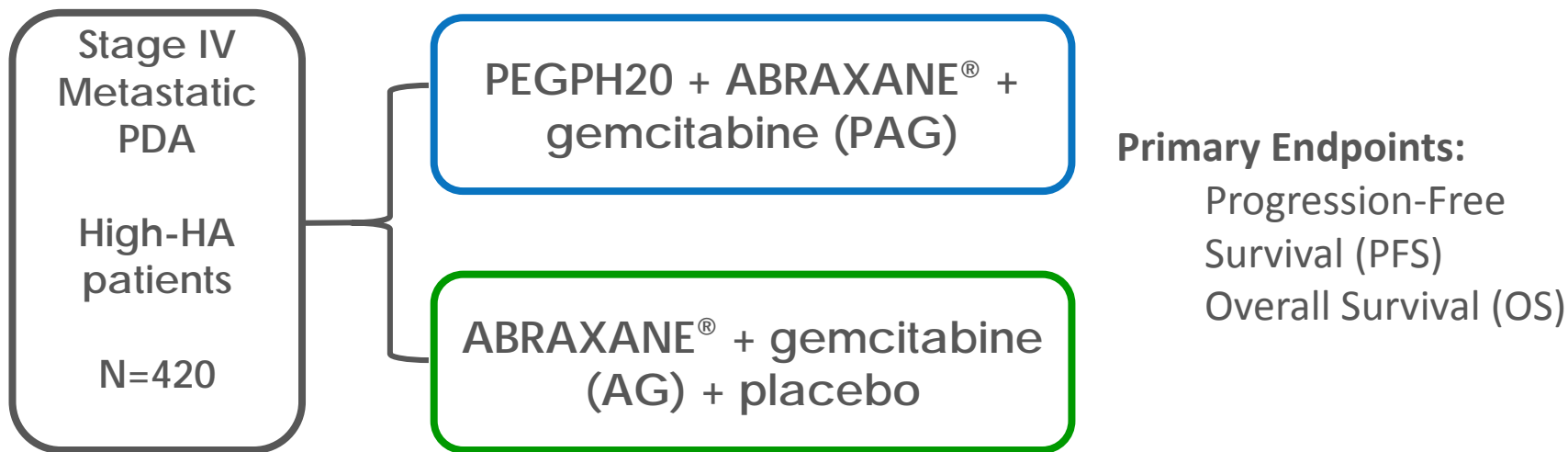
	PAG N=74 Patients, n (%)		AG N=61 Patients, n (%)	
Preferred Term	Grade 3+	Any Grade	Grade 3+	Any Grade
Any AE	61 (82.4)	73 (98.6)	45 (73.8)	57 (93.4)
Fatigue	13 (17.6)	50 (67.6)	11 (18.0)	42 (68.9)
Nausea	5 (6.8)	41 (55.4)	2 (3.3)	27 (44.3)
Anemia	14 (18.9)	31 (41.9)	10 (16.4)	32 (52.5)
Edema peripheral	2 (2.7)	43 (58.1)	4 (6.6)	19 (31.1)
Diarrhea	5 (6.8)	31 (41.9)	2 (3.3)	24 (39.3)
Alopecia	0	24 (32.4)	0	25 (41.0)
Decreased appetite	4 (5.4)	26 (35.1)	2 (3.3)	15 (24.6)
Muscle spasms	6 (8.1)	41 (55.4)	0	1 (1.6)
Platelet count decreased	5 (6.8)	22 (29.7)	4 (6.6)	18 (29.5)
Vomiting	4 (5.4)	23 (31.1)	0	16 (26.2)
Neutropenia	18 (24.3)	24 (32.4)	9 (14.8)	11 (18.0)

Note: 1) Hingorani, et al. ASCO 2015 (Abstract #4006).

# HALO 202 | Pancreatic: Updated Thromboembolic (TE) Events With Enoxaparin Prophylaxis

	Enoxaparin Prophylaxis Dose	TE Event Rate	
		PAG	AG
<b>Stage 1</b> (through Dec. 5, 2014)	N/A	42% (n=74)	25% (n=61)
<b>Stage 2</b> (through Dec. 15, 2015)	40 mg/day; or, 40 mg/day increased to 1 mg/kg/day	28% (n=18)	29% (n=7)
	Started on 1 mg/kg/day	7% (n=55)	4% (n=27)
	<b>TOTAL – Stage 2</b>	<b>12%</b> (n=73)	<b>9%</b> (n=34)

# HALO-301 | Pancreatic: Phase 3 Design



- Randomized (2:1 PAG:AG), double-blind, placebo-controlled, global
- Plan to initiate March 2016, approximately 200 sites in 20 countries
- Interim analysis when target number of PFS events reached
- PFS powered with a hazard ratio of 0.59 (to detect a 41% risk reduction for progression)

# Companion Diagnostic Goals Achieved with Ventana

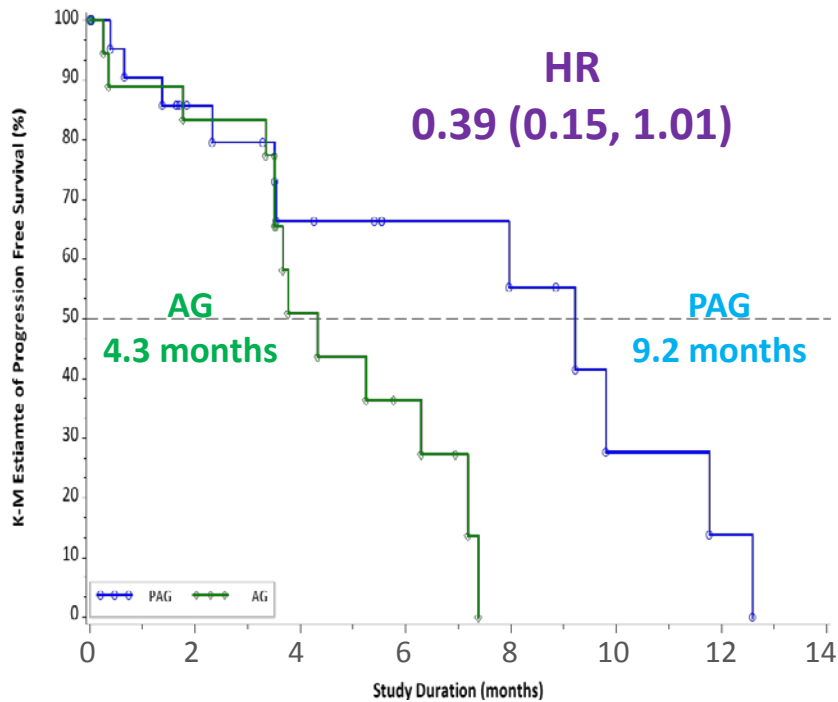
<b>Assay, Algorithm and Scoring approach</b>	<b>Halozyme Prototype</b>	<b>Ventana</b>
<b>Specificity for HA</b>	<b>Good</b>	<b>Better</b>
<b>Regulatory approval path</b>	<b>Limited</b>	<b>Yes</b>
<b>FDA-approved platform widely available in Clinical Labs</b>	<b>No</b>	<b>Yes</b>
<b>Consistent pathologist-based read for approval and broad adoption</b>	<b>No</b>	<b>Yes</b>

# Ventana PEGPH20 Companion Diagnostic

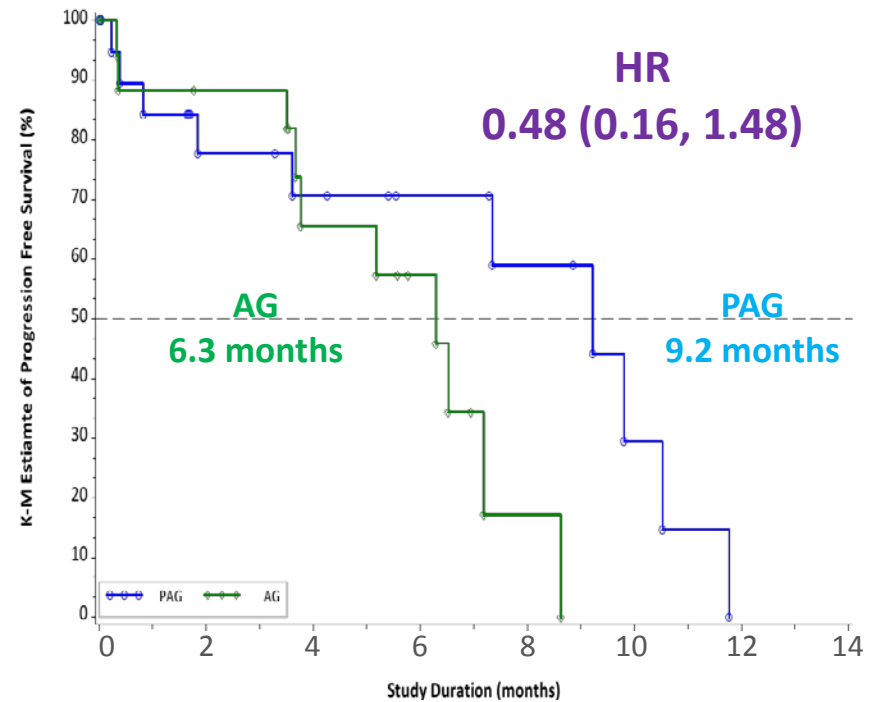
	<b>Approach</b>	<b>Potential Benefits</b>
<b>Detection</b>	Rabbit Fc version HTI-601	<ul style="list-style-type: none"><li>• Specific for HA</li><li>• Adapted for Ventana platform</li></ul>
<b>Scoring</b>	Pathologist Read	<ul style="list-style-type: none"><li>• 35-40% of HA-high population</li></ul>
<b>Regulatory</b>	U.S.  Europe	<ul style="list-style-type: none"><li>• IDE submission February 2016</li><li>• European Conformity Mark in planning</li></ul>
<b>Commercial</b>	Ventana	<ul style="list-style-type: none"><li>• Globally approved and available platform</li></ul>

# PFS Benefit and Hazard Ratio on Ventana Platform Support Design of Phase 3 Study

**Halozyme Prototype CDx  
(Stage 1 202: presented ASCO 2015)**



**Ventana CDx  
(Stage1 202)**





# Studying Pan-Tumor Potential of PEGPH20

PEGPH20 Study		Preclinical	Phase 1	Phase 2	Phase 3
In Combination with	Tumor				
Gemcitabine and nab-Paclitaxel (Abraxane)	Pancreatic Cancer				
Docetaxel (PRIMAL)	NSCLC				
Pembrolizumab (Keytruda®)	Gastric/NSCLC				
Eribulin (Halaven®)	Breast Cancer (Eisai)				

Investigator Sponsored Trials in Pancreatic Cancer: SWOG, UCSF, MSKCC

# Focus on High Unmet Need Tumors



## Estimated Cancer Incidence in 2016<sup>1</sup>

	US	EU5
Pancreas (PDA) – 1L	40,000	47,000
Metastatic Breast-1L HER2 Neg	32,000	34,000
Metastatic Non-Small Cell Lung– 2L	49,000	41,000
Metastatic Gastric	18,000	42,000

Source: <sup>1</sup> GLOBOCAN 2012, SEER database, Halozyme Estimate

# ENHANZE™ Technology

# ENHANZE: Our Novel Delivery Platform



Baxalta



abbvie

Lilly

## Potential Benefits:

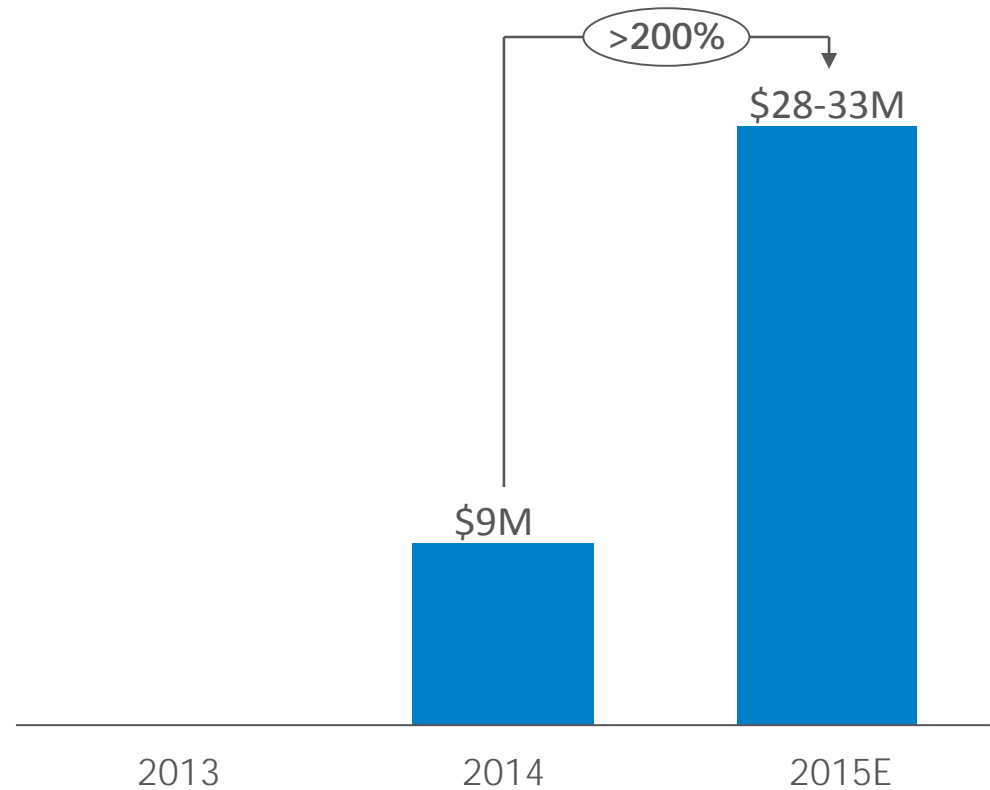
- Facilitate transition of IV therapies to subcutaneous administration
- Reduce multiple injections
- Enable large volume of biologics to be delivered subcutaneously
- Reduce time required for drug administration
- Life cycle management, including potential patent life extension

# ENHANZE Platform Momentum: Royalty Ramp

## Approved Products









## Royalty Revenue Ramp



# ENHANZE Momentum: Partnerships Accelerating, Royalty Pipeline Building

- 3 new partnerships in 12 months
- Time from signing to clinic accelerating
- 2 new targets in clinic, HyQvia new study planned
- Estimated 150 targets available that may benefit from ENHANZE

	2006	2007	2012	2014	2015	
						
<b>Upfront</b>	\$20M	\$10M	\$8M	\$15M	\$23M	\$25M
<b>Milestones / Target</b>	\$73M	\$37M	\$85M	\$113M	\$130M	\$160M
<b>Targets</b>	8	1	6	5	9	5
Mid-single Digit Royalties on Net Sales						

# Financial Update

# 2016 Financial Guidance

	2016	Notes
<b>Revenue</b>	\$110M to \$125M	<ul style="list-style-type: none"> <li>No new ENHANZE partnership revenue in 2016 guidance</li> </ul>
<b>Operating Expenses</b>	\$240M to \$260M	<ul style="list-style-type: none"> <li>Phase 3 pancreatic cancer study initiating in late Q1</li> <li>Ongoing clinical program in NSCLC, gastric and breast cancers</li> </ul>
<b>Cash Flow</b>	\$35M to \$55M	<ul style="list-style-type: none"> <li>Cash to be received in Jan 2016                             <ul style="list-style-type: none"> <li>\$25M Lilly upfront</li> <li>\$150M Royalty Backed Debt Financing</li> </ul> </li> </ul>
<b>Year-end Cash</b>	\$140M to \$160M	<ul style="list-style-type: none"> <li>Assumes \$22M principal repayment to Oxford/SVB</li> </ul>



# Value Enhancing Milestones Throughout 2016

Goal	Target Date
Initiate HALO-301   Pancreatic trial	End of Q1 2016
HALO-Eisai Study in Breast Cancer Patients Initiated	End of Q2 2016
Advance to Dose Expansion Phase in KEYTRUDA and PRIMAL Studies (pending number of dose cohorts)	2H 2016
Report mature data from HALO 202   Pancreatic	Q4 2016
Seek new ENHANZE collaboration and licensing agreements and support current partner clinical progress	2016

# Investment Thesis: Platforms for Growth

1

Two platform assets, with value across indications, tumors and therapies

2

Encouraging data for investigational new oncology drug PEGPH20

3

Differentiated business model, growing ENHANZE platform revenue

4

Expertise in tumor microenvironment and its immunology

