**Filed by OncoGenex Pharmaceuticals, Inc.**
**Pursuant to Rule 425 under the Securities Act of 1933**
**Deemed filed pursuant to Rule 14a-12 of the Securities Exchange Act of 1934**

**Subject Company: OncoGenex Pharmaceuticals, Inc.**
**Commission File No.: 033-80623**

Achieve Life Science, Inc. plans to present the following presentation to potential investors.

# ACHIEVE LIFE SCIENCES

June 2017

# Forward Looking Statements

This presentation contains forward-looking statements, including, but not limited to, statements regarding the terms, timing, conditions to and anticipated completion of the proposed merger; the expected ownership of the combined company and the composition of the combined company's board of directors and management team; the anticipated distribution to OncoGenex Pharmaceuticals, Inc. (OncoGenex) stockholders of contingent value rights (CVRs) and the value of such CVRs; the timing of planned clinical development activities of cytisine; the projected path toward potential regulatory approval; the safety, efficacy and commercial potential of cytisine; the potential market for cytisine; the benefits of cytisine relative to competitors; the anticipated benefits of cytisine; plans, objectives, expectations and intentions with respect to future operations. All statements other than statements of historical fact are statements that could be deemed forward-looking statements. Achieve Life Science, Inc. (Achieve) and/or OncoGenex may not actually achieve the proposed merger, or any plans or product development goals in a timely manner, if at all, or otherwise carry out the intentions or meet the expectations or projections disclosed in these forward-looking statements. These statements are based on management's current expectations and beliefs and are subject to a number of risks, uncertainties and assumptions that could cause actual results to differ materially from those described in the forward-looking statements, including, among others, the failure of the Achieve or OncoGenex stockholders to approve the transaction; the failure of either party to meet the closing conditions of the transaction; delays in completing the transaction and the risk that the transaction may not be completed at all; the success of the combined businesses; operating costs and business disruption during the pendency of and following the proposed merger; general business and economic conditions; the need for and ability to obtain additional financing; the ability to source sufficient amounts of cytisine to meet commercial demand; and the risks associated with the process of developing, obtaining regulatory approval for and commercializing drug candidates that are safe and effective for use as human therapeutics. Achieve undertakes no obligation to update the forward-looking statements contained herein or to reflect events or circumstances occurring after the date hereof, other than as may be required by applicable law.

# Important Additional Information About the Merger


This communication is being made in respect of the proposed merger involving OncoGenex Pharmaceuticals, Inc. and Achieve Life Science, Inc. OncoGenex has filed a registration statement on Form S-4 (File No. 333-216961) with the Securities and Exchange Commission (SEC) which contains a preliminary proxy statement/prospectus/information statement and other relevant materials, and plans to file with the SEC other documents regarding the proposed transaction. The final proxy statement/prospectus/information statement will be sent to the stockholders of OncoGenex and Achieve. The proxy statement/prospectus/information statement contains information about OncoGenex, Achieve, the proposed merger and related matters. **STOCKHOLDERS ARE URGED TO READ THE PROXY STATEMENT/PROSPECTUS/INFORMATION STATEMENT (INCLUDING ANY AMENDMENTS OR SUPPLEMENTS) AND OTHER DOCUMENTS FILED WITH THE SEC CAREFULLY IN THEIR ENTIRETY AS THEY BECOME AVAILABLE, AS THEY CONTAIN IMPORTANT INFORMATION THAT STOCKHOLDERS SHOULD CONSIDER BEFORE MAKING A DECISION ABOUT THE MERGER AND RELATED MATTERS.** In addition to receiving the final proxy statement/prospectus/information statement and proxy card by mail, stockholders will also be able to obtain the proxy statement/prospectus/information statement, as well as other filings containing information about OncoGenex, without charge, from the SEC's website (http://www.sec.gov) or, without charge, by directing a written request to: OncoGenex Pharmaceuticals, Inc., 19820 North Creek Parkway, Suite 201, Bothell, WA 98011, Attention: Investor Relations or to Achieve Life Science, Inc., 30 Sunnyside Avenue, Mill Valley, CA 94941, Attention: Rick Stewart.

# Important Additional Information About the Merger


*This communication shall not constitute an offer to sell or the solicitation of an offer to sell or the solicitation of an offer to buy any securities, nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. No offering of securities in connection with the proposed merger shall be made except by means of a prospectus meeting the requirements of Section 10 of the Securities Act of 1933, as amended.*

**Participants in Solicitation**

OncoGenex and its executive officers and directors may be deemed to be participants in the solicitation of proxies from OncoGenex's stockholders with respect to the matters relating to the proposed merger. Achieve and its officers and directors may also be deemed a participant in such solicitation. Information regarding OncoGenex's executive officers and directors is available in OncoGenex's proxy statement on Schedule 14A, filed with the SEC on April 21, 2016. Information regarding any interest that OncoGenex, Achieve or any of the executive officers or directors of OncoGenex or Achieve may have in the transaction with Achieve will be set forth in the final proxy statement/prospectus/information statement that OncoGenex will file with the SEC in connection with its stockholder vote on matters relating to the proposed merger. Stockholders will be able to obtain this information by reading the final proxy statement/prospectus/information statement when it becomes available.

Achieve Life Sciences is a specialty pharmaceutical company committed to advancing cytisine as a smoking cessation aid to overcome the global tobacco addiction epidemic

# Achieve at a Glance

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## Built around cytisine - a single short-course oral smoking cessation treatment

- Founded in 2015 by Rick Stewart and Dr. Anthony Clarke
  - Skyepharma, Amarin, Huxley Pharma, Brabant Pharma
- Acquired WW* rights to cytisine from Sopharma AD
  - One of the largest generic pharmaceutical companies in Eastern Europe
- Cytisine has over 15 years of in market experience

## Strategic merger with OncoGenex (NASDAQ: OGXI) provides platform for growth

- Transition from privately held biotech to resourced public company
  - Strengthens clinical/regulatory/financial infrastructure
  - Delivers capital to continue cytisine's progress towards Phase 3 study
  - Provides access to public markets
- Key clinical development milestones expected over the next 12-18 months
- NASDAQ ticker ACHV post merger

**Excluding Eastern Europe, and other tertiary territories*

# Achieve at a Glance (cont.)

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## Cytisine is well positioned for U.S. regulatory and commercial success

- Safety and efficacy supported by two recent Phase 3 trials (>2000 patients treated)
  - Both published in NEJM
- Marketed in Central and Eastern Europe providing a robust safety dossier (>15MM patients)

## Rapid path to regulatory approval anticipated in U.S. and Europe

- FDA meeting clarified regulatory pathway
- Pivotal Phase 3 trial in the U.S. expected to commence in 1H18
- Discussions with regulators regarding EU decentralized MAA approach

## Clear differentiation of cytisine versus market leaders including CHANTIX® (varenicline)

- Single 25 day short-course of treatment
- Anti-addiction dosing schedule
- Distinct MOA with compelling safety profile

*® Registered trademark of Pfizer Inc*

# Smoking Cessation Market Opportunity

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## Large and expanding global market

- Global smoking cessation and nicotine de-addiction market ~ $12 billion in 2016*
- Chantix sales forecasted to reach $1 billion globally in 2017

## Addresses a global public health epidemic

- An estimated 1 billion people will die from smoking related diseases this century
- Global smoking population remains constant
  - The NIH and WHO est. ~ 1.1 billion people globally are smokers
  - 36.5 million people or 15% of all U.S. adults are smokers

## Significant unmet medical need requiring better therapeutics

- Despite existing treatments, most smokers fail multiple attempts to quit **
  - 70% of current smokers have expressed a desire to quit
  - 40% attempted to quit in the past year but only 6.2% succeeded
  - Up to 60% of quitters relapse in the first year due to addictive nature of nicotine
  - It is estimated that it takes 8–11 attempts before quitting permanently

## Economic cost of smoking related diseases

- Smoking-related healthcare costs in the U.S. are estimated to exceed $300 billion annually**

**Coherent Market Insights, in its March 2017 report "Smoking Cessation and Nicotine De-addiction Products Market*
*** Centers for Disease Control 2017*

# Current Smoking Cessation Landscape

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## Current smoking cessation treatment options are limited

- The most common treatment is nicotine replacement therapy (NRT)
  - Available both OTC and Rx and in many formulations such as patch, gum & lozenge
  - Generally shown to be less effective then Rx treatments
- There are two prescriptions treatment options CHANTIX® (varenicline) & ZYBAN® (bupropion hydrochloride)
  - Both are oral drugs given on average for 12 weeks
  - Safety has been a concern with both treatments including historic black box warnings

## Favorable reimbursement environment

- Strong U.S. commercial coverage for smoking cessation medications (℞ & OTC)
  - Up to 2 quit attempts per year covered
  - Coverage includes counseling and 90 days of medication per quit attempt
  - All branded smoking cessation products covered by Medicaid nationwide

® *Registered trademark Glaxo Group*

# Current Therapy Utilization in U.S.

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## Chantix leads the U.S. prescription market in revenues

- On track for $1 billion in global sales in 2017
- Chantix faces limited resistance with coverage by majority of plans
- Average price for Chantix has more than doubled in the last 5 years
- Historical black box warning still a safety concern post removal

## NRT market is highly fragmented but leads in volume

- NRT monthly unit volume is ~2/3 of current smoking cessation market
- Available OTC and maintains modest Rx coverage
- High usage of NRT confirms need for additional treatment options

## Zyban usage lags other therapies

- Primarily due to poor safety profile including black box warnings

US Market Share (Sales$)

US Market Share (Units)



*IMS Health, QuintilesIMS, May 2017*

# Cytisine: Product Profile

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## Well Characterized MOA

- Cytisine is a partial agonist that binds with high affinity to the $\alpha_4\beta_2$ nicotinic acetylcholine receptor
- $\alpha_4\beta_2$ nicotinic receptor is well-characterized in addiction
- Cytisine interrupts the reward cycle of nicotine

## Strong Phase 3 & In-Market Data

- Two Phase 3 trials; 2,050 patients, including two NEJM publications
- Over 10,000 patients in clinical trials to date
- Over 21 million patients treated with marketed product in Europe
- Over 15 million patients covered through EU safety reporting (PSUR)

## Anticipated Regulatory Pathway

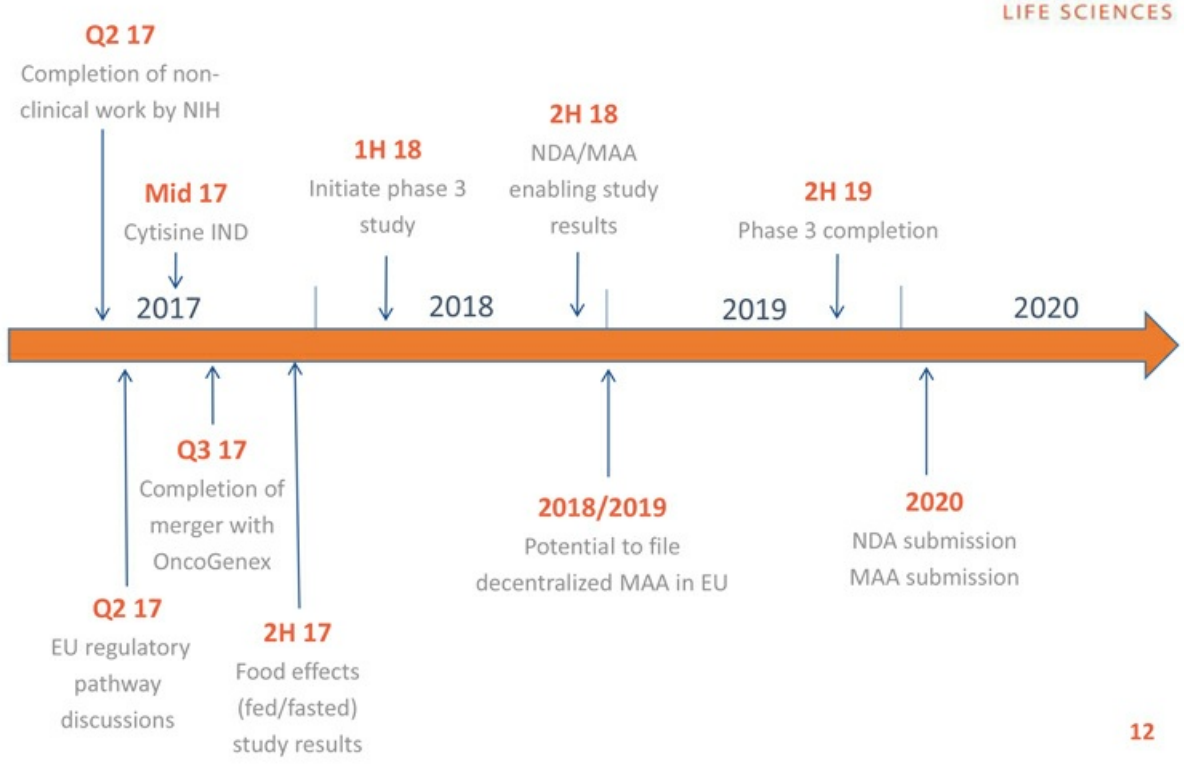
- IND enabling studies completed by NIH
- Expected IND mid 17
- Phase I food effect study expected 2H17
- Pivotal Phase 3 trial in the U.S. expected to initiate 1H 2018
- Expected NDA 2020
- Potential for MAA prior to Phase 3 completion

## Competitive Profile

- Short course of treatment
- Excellent safety profile
- Demonstrated superiority to nicotine replacement in large, randomized trial
- Comparable efficacy* to varenicline, with potentially fewer off-target side effects

** Cahill K et al; Cochrane Database of Systematic Reviews 2016, Issue 5*

# Anticipated Clinical and Corporate Milestones



# Cytisine Clinical Profile & Development Plan

# Cytisine Clinical Profile

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## Extensive clinical and in-market experience

- More than 10,000 participants in cytisine clinical trials to date
- Over 21 million patients treated with commercial product
- Extensive EU PSUR safety reporting for over 15 million patients

## Two large, Phase 3 clinical trials recently conducted in more than 2,000 patients published in *NEJM** (both p=0.001)

- Phase 3 TASC* trial –cytisine versus placebo (n=740)
- Phase 3 CASCAID** trial—cytisine versus NRT (n=1,310)
- In both trials, cytisine was shown to be superior

## Anti-addiction dosing schedule

- Dosage starts high and is reduced over the 25 day single course of therapy
- Cytisine dose reductions during course of therapy reflect decreased nicotine dependence

** West et al; N Engl J Med; 365:13 Sept 29, 2011*

*** Walker et al; N Engl J Med; 371:25 Dec 18, 2014*

# TASC Phase 3 Trial (Cytisine vs. Placebo)

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## Design

- Double-blind, randomized, placebo-controlled; minimal behavioral support
- Conducted in Poland with funding support from The UK National Prevention Research Initiative (British Heart Foundation, Cancer Research UK and others)

## Results

- Cytisine 3.4 times more likely to result in smoking cessation after 12 months (p=0.001)
- No overall difference in the rate of side effects in the two trial arms, although higher GI events were seen in the cytisine group
- No serious treatment-related adverse events with cytisine

*West et al; N Engl J Med; 365:13 Sept 29, 2011*

# CASCAID Phase 3 Trial (Cytisine vs. NRT)

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| N=1,310 | Cytisine vs. NRT | Key Endpoints |
|---|---|---|
| Heavy smokers<br>Aged 18 or over;<br>Randomized 1:1 | 25-day cytisine dosing regimen or 8-week NRT (patch &/or gum or lozenge) | 1, 2, & 6-month quit rates |

## Design

- Randomized, open-label, active-controlled, non-inferiority study design; moderate behavioral support
- Cytisine compared to NRT
- Conducted by University of Auckland and funded by Health Research Council, New Zealand

## Results

- Cytisine 1.43 times more likely than NRT to result in smoking cessation after 6 months (p=0.002)
  - 6-month quit rate equivalent to the 24-week quit rates in the varenicline EAGLES trial (n=8,144) published in The Lancet in June 2016
- Cytisine was generally well tolerated, although self-reported adverse events were higher in the cytisine arm compared with the NRT arm
- No serious treatment-related adverse events with cytisine



*Walker et al; N Engl J Med; 371:25 Dec 18, 2014*

# Streamlined Clinical Plan

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## Phase 1

**Impact of food on cytisine absorption (Required prior to Phase 3)**
- N=24; single dose trial
- Crossover trial—fasted subjects and subjects on high fat meal
- Primary Endpoint: bioavailability in fed and fasted state

**NDA/MAA enabling studies (Not required prior to Phase 3)**
- Repeat dose PK study
- Renal impairment study
- QTc study (if required)

## Phase 3

**Pivotal registration study**
- N=2,100
- 3 arms – standard dose cytisine, high dose cytisine vs. placebo
- Treatment period = 25 days
- Powered at 90% to show benefit in 6-month abstinence vs. placebo
- End points
  - Primary: Biochemically verified abstinence rate at 6 months
  - Secondary: Abstinence rate at 1 and 3 months
- Patients will be provided behavioral support to U.S. standards

# Cytisine Competitive Advantage

# Cytisine Short Course Anti-addiction Dosing Schedule

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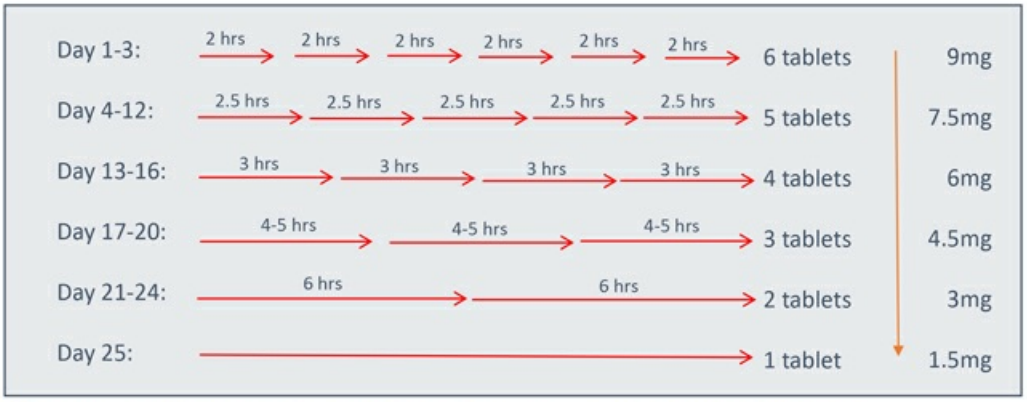
## Classic anti-addiction dosing schedule

- Cytisine titrates from 9mg/day to 1.5mg in typical anti-addiction approach
  - Unlike varenicline steady-state dosing
- Cytisine dose reductions during course of therapy reflect decreased nicotine dependence




## Differentiated dosing schedule has distinct competitive advantage

- Shorter time on medication leading to increased compliance
- Applicability in urgent 'need-to-quit' smokers with co-morbidities

# Well-defined MOA

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## Cytisine specifically targets the $\alpha_4\beta_2$ nicotinic acetylcholine receptor

- Partial agonistic activity at $\alpha_4\beta_2$ that binds with high affinity
- $\alpha_4\beta_2$ is the principal MOA in smoking cessation* (like varenicline)
  - Cytisine partially stimulates receptors, mimicking nicotine
  - Cytisine partially blocks receptors, blocking nicotine
- This dual action
  - Reduces nicotine cravings
  - Reduces the severity of nicotine withdrawal symptoms
  - Reduces the pleasurable sensation of cigarette smoking

*Rollema H et al. TIPS. 2007, 28 (7):316-325.

# Advantages Over Existing Treatments

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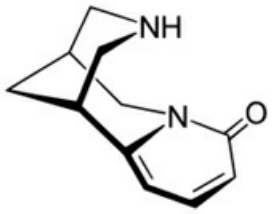
## Cytisine has a more selective receptor targeting profile

- High affinity selective binding to $\alpha_4\beta_2$ receptors in brain
- Low affinity binding to $\alpha_7$ & 5-$HT_3$ in brain and $\alpha_3\beta_4$ in peripheral nervous system*

## Varenicline has a less selective receptor targeting profile

- High uptake into brain combined with activity at "off-target" receptors could be responsible for varenicline's adverse event profile




Cytisine

| Site | Receptor | Cytisine | Varenicline |
|---|---|---|---|
| Brain | $\alpha_4\beta_2$ | ✓ | ✓ |
| | $\alpha_7$ | | ✓ |
| | 5-$HT_3$ | | ✓ |
| Periphery | $\alpha_3\beta_4$ | | ✓ |

*Coe J et al. J. Med. Chem. 2005, 48:3474-3477; Papke RL et al. JPET. 2011, 337:367–379; Slater YE et al. Neuropharm. 2003, 44:503–515; Lummis SCR et al. JPET. 2011, 339:125–131.

# Compelling Safety & Tolerability

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## Most commonly reported side effects:

| Adverse Event (95% CI) | Cytisine* | Varenicline** |
|---|---|---|
| Nausea/Vomiting | 4.1% (3.0% – 5.4%) | 27.8% (26.8% - 28.8%) |
| Sleep Disorder/Abnormal Dreams | 2.5% (1.7% - 3.6%) | 12.5% (11.8% - 13.3%) |
| Insomnia | 0.2% (0.03% – 0.68%) | 14.2% (15.6% - 14.9%) |
| Headache | 1.4% (0.9% - 2.3%) | 12.7% (12.0% - 13.5%) |

** Data on file; Achieve Life Sciences based on meta analysis of 4 GCP trials*
*** Cahill K et al; Cochrane Database of Systematic Reviews 2016, Issue 5*

# Cytisine's Relative Efficacy Profile

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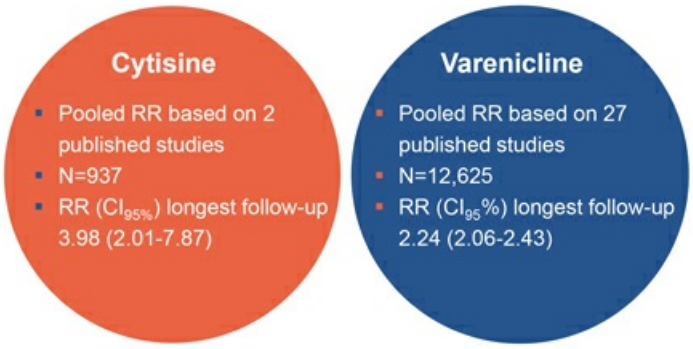


**Relative "Risk" (RR)** defined as the likelihood of quitting smoking and remaining abstinent at longest follow-up. Higher **RR** numerical value equates to greater benefit.

## Cochrane Group independent meta analysis of nicotine receptor partial agonists*

- Relative risk versus placebo for both cytisine and varenicline were in the same order of magnitude
  - A head to head between cytisine and varenicline has not been performed
- Cytisine treatment for 25 days vs. varenicline for 12 or more weeks
- Cytisine trials were conducted with minimal behavioral support, varenicline trials generally with more extensive behavioral support

*Cahill K et al; Cochrane Database of Systematic Reviews 2016, Issue 5*

# Commercial Overview

# Commercial Strategy

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**Sales & Marketing**

| | |
|---|---|
| ▪ **Direct commercialization** | - U.S., EU hospital & smoking cessation centers |
| ▪ **Strategic Partnering** | - U.S., EU Primary Care & Specialty Targeting |
| ▪ **China/Japan/Rest of World** | - Out license |

**Lifecycle & Pipeline**

| | |
|---|---|
| ▪ **Rx to OTC Switch** | - Evaluate potential OTC switch to target NRT market |
| ▪ **Expanded label and new indications** | - Multiple indication opportunities for consideration including obesity, depression, Alzheimer's and various addictions |
| ▪ **New formulation/ administration options** | - Partnership with University of Bristol for evaluation of next generation compounds |

# IP Portfolio and Strategy

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## Regulatory exclusivity

- U.S. - 5 years under Hatch-Waxman
- EU - 10 years under Article 8

## Exclusive API supply from Sopharma AD

- 5-6 year API lead time
- Single enantiomer of cytisine
- Ability to synthesize cytisine in lab not viable
- Extraction know-how

## Filed and planned patent estate to include

- Dosage form
- Formulation
- Method of use
- Method of manufacturing/extraction
- Receptor activity

## Exclusive license agreement with University of Bristol

- Next generation highly targeted cytisine derivatives

# Manufacturing & Supply Chain

## Sopharma AD

**API & solid dosage manufacturer**

- Exclusive supply agreement for 100% of Achieve's cytisine requirement
- Supply for clinical trials and commercial use
- Competitive cost of goods

**EU-GMP compliant state-of-the-art pharmaceutical manufacturing**

- Opened November 2013
- Capacity 4 billion tablets

# Corporate Profile

# Key Elements of Achieve/OGXI Merger

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- Achieve Life Science, Inc. and OncoGenex Pharmaceuticals, Inc. signed a definitive merger agreement January 5, 2017
- Upon completion of the merger, Achieve shareholders are expected to own ~75% and OGXI shareholders are expected to own ~25% of the combined company
- Clinical development, regulatory and finance team expected to be 10 full-time employees at closing of merger
- Achieve will retain apatorsen, a drug designed to inhibit production of heat shock protein 27 (Hsp27)
  - OGXI shareholders are expected to receive contingent value rights for 80% of defined consideration received related to apatorsen
  - Achieve will explore strategic solutions for the program
- Pro forma (combined company) cash, cash equivalents and investments of $16.5 million as of Mar 31, 2017

# Post Merger Leadership Team

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| | |
|---|---|
| **Rick Stewart**<br>**Chairman & CEO** | Chairman & CEO of Ricanto<br>CEO of Brabant Pharma (acquired by Zogenix)<br>Chairman & CEO of Huxley Pharma (acquired by BioMarin)<br>CEO of Amarin Corp<br>Founder & CBO of SkyePharma (acquired by Vectura) |
| **John Bencich, MBA, CPA**<br>**CFO** | CFO of OncoGenex<br>CFO of Integrated Diagnostics<br>CFO of Allozyne<br>CFO of Trubion Pharmaceuticals (acquired by Emergent) |
| **Cindy Jacobs, PhD, MD**<br>**CMO** | CMO of OncoGenex<br>CMO of Corixa (acquired by GSK)<br>VP Clinical Development, CellPro |
| **Anthony Clarke, PhD**<br>**CSO** | CSO of Ricanto<br>CSO of Brabant Pharma (acquired by Zogenix)<br>CSO of Huxley Pharma (acquired by BioMarin)<br>VP Clinical and Regulatory, Amarin Corp |

# Value Proposition

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## Large market opportunity with rapid path to approval

- Substantial global commercial opportunity for smoking cessation treatments
- Phase 3 ready asset in the U.S. and potential to file MAA earlier in the EU
- Life cycle opportunity for other indications and formulations

## High probability of clinical success

- De-risked clinical development pathway
- Over 21 million patients already treated with cytisine
- Safety and efficacy shown in 2 recent Phase 3 trials in over 2,000 patients

## Clear product differentiation

- Single short course of treatment
- Anti-addiction dosing schedule
- Distinct MOA with compelling safety profile

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