



Icagen Asset Acquisition

Ligand[®]

February 11, 2020

Nasdaq: LGND

Safe Harbor Statement

These slides, and the associated news release, contain forward-looking statements by Ligand that involve risks and uncertainties and reflect Ligand's judgment as of the date of this slide deck and the associated news release. The risks related to the Icagen transaction include the risk that the acquisition is not completed, due to the failure of the parties to satisfy the closing conditions, or a material adverse change in Icagen's business before the planned closing. Further, the anticipated benefits of the acquisition may not be realized, or may be affected by competition or other external events. There are additional risks that apply to statements regarding the assets and business being acquired from Icagen, the profitability of the assets and business being acquired from Icagen and the availability of synergies with Ligand's Vernalis and OmniAb businesses. Actual events or results may differ from our expectations. For example, there can be no assurance that the Roche or CFF programs will be able to successfully identify any desirable drug candidates or that any drug candidates developed in such programs would be clinically or commercially successful, all of which might result in the potential milestone payments and royalties not being earned; Ligand's ability to manage and integrate the assets and business acquired from Icagen; the availability of Icagen technology might not generate additional Vernalis and/or OmniAb business for Ligand; and Ligand's Vernalis and/or OmniAb partners might choose not to utilize Icagen technology (or might not achieve successful results, if they do). The failure to meet expectations with respect to any of the foregoing matters may reduce Ligand's stock price. Additional information concerning these and other important risk factors affecting Ligand can be found in Ligand's prior press releases available at www.ligand.com as well as in Ligand's public periodic filings with the Securities and Exchange Commission, available at www.sec.gov. Ligand disclaims any intent or obligation to update these forward-looking statements beyond the date of this slide deck and the associated news release, except as required by law. This caution is made under the safe harbor provisions of the Private Securities Litigation Reform Act of 1995.

Icagen Overview

ICAGEN

- Icagen is a biotechnology company headquartered in Durham, NC focused on drug discovery and collaborations that include access to their ion channel technologies
 - Provides ion channel screening and assays along with custom drug discovery support for their collaborators and customers

- Two key partnered programs with Roche and Cystic Fibrosis Foundation (CFF)



Deal focused on
Neurological
Diseases



Deal focused on
Cystic Fibrosis

- Six novel unpartnered programs applicable to a range of therapy areas

Primary Acquisition Terms

- Purchase consideration:
 - \$15 million cash at close
 - Earnout of 15% of milestones and royalties, capped at \$25 million
- Acquired assets:
 - Ion channel technologies
 - Two Shots on Goal with Roche and CFF
 - 6 novel unpartnered programs
 - Scientific team and resources to drive work going forward
- Transaction projected to close in April 2020

Acquisition Highlights

- Transaction projected to be accretive to revenue and earnings in 2020, 2021 and beyond
- High-quality existing partnered programs with significant economics
- Proprietary technology and team that is well-known and respected in the field of ion channels, providing opportunity for future partnering
- Library of unpartnered programs, which could drive future Shots on Goal
- Potential synergies with Ligand's Vernalis operations, can potentially leverage Icagen for partner program services that are currently outsourced
- Potential technology utility to OmniAb partners, as some are actively working on ion channel targets

Icagen Opportunity

Proven Business Model

- Profitable, cash-flow positive company; expected to be immediately accretive
- Two potentially lucrative partnered programs
- Strong science and established technology

Excellent Strategic Fit

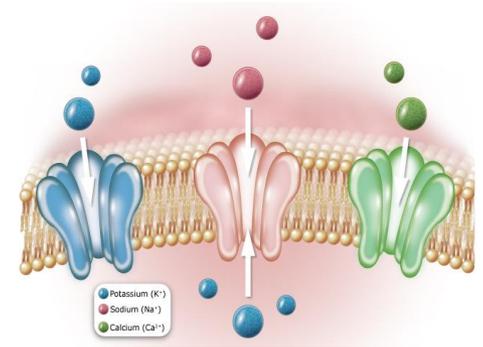
- Technology licensing business similar to Vernalis, OmniAb and Captisol models
- Minimal cash to manage business, partnered programs and licensing

Strengthens Ligand's deal making

- Expands proprietary technology base
- Potential for new partnering of novel assets
- Existing Ligand partners are seeking ion channel technology to address some of their needs

The Importance of Ion Channels

- Ion channels are **key components** in a wide variety of biological processes that involve rapid changes in cells
 - Examples include cardiac and smooth muscle contraction, transport of nutrients and ions, T-cell activation and others
- Ion channels have **broad therapeutic applicability** including cancer, metabolic disease, pain, neurological diseases, infectious diseases, others
- Discoveries concerning ion channels have been the subject of **Nobel Prizes** in Chemistry and in Physiology and Medicine
- Recent publications validate the importance of ion channels in both **small molecule and antibody research**



In the search for novel drugs, ion channels are consistently viewed as high-value targets

References:

MAbs. 2019 11(2):265-296

J Cancer. 2020 11(2):374-387

Physiol Rev. 2019 99(2):1079-1151

Icagen and Ligand's Technologies

- Icagen has established deep biological expertise focused on ion channels and transporters and has a strong track record in ion channel drug discovery from screening to lead optimization



Icagen's medicinal chemistry, *in silico* and computational chemistry (including AI) applications and x-ray fluorescence assays can integrate into/expand the drug-discovery work at Vernalis



Icagen's novel reagent generation and assays can support novel OmniAb antibody discovery when targeting high-value ion channels and transporter targets

Ion channel targets are frequently a focus of current and prospective Vernalis and OmniAb partners

Two Valuable Partnered Programs



*Collaboration Focused on
Neurological Diseases*

Executed December 2018

**\$9 M committed for
research funding**

**Icagen responsible for
preclinical activities up to
advanced lead**

**\$274 M in remaining
milestones**

Tiered royalty

*Collaboration Focused on
Cystic Fibrosis and Nonsense
Mutations*

Executed May 2018

**\$11 M committed for
research funding**

**Icagen responsible for
preclinical activities up to
advanced lead**

**\$59 M in remaining
milestones**

Tiered royalty

Novel, Unpartnered Preclinical Molecules

Target	Potential Indications
BCAT2	Organic Acidemia, Diabetes
GYS1	Pompe Disease
cGAS	Aicardi-Goutieres Syndrome, Parkinson's Disease, Lupus
TRPML1	Neurodegenerative Diseases
Nav1.9	Pain
ApoL1	Chronic Kidney Disease

Novel molecules are applicable to a range of therapy areas and create future partnering opportunities

Projected Financial Impact

Revenue

- Near-term revenue consists of service revenue and license and milestone fees
- Projected to add revenue of \$7 million in 2020 and \$12 million in 2021

Adjusted Diluted EPS

- Accretive to adjusted diluted EPS in 2020, addition of \$0.05
- \$0.25 accretive in 2021

2020 Guidance following close of the Icagen Deal

- Revenues estimated to be \$128 million, up from previous guidance of \$121 million
- Adjusted diluted EPS estimated to be \$3.45, up from previous guidance of \$3.40



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