Pipeline

Olinciguat
Vascular sGC Stimulator

Discovery | IND Enabling | Phase 1 | Phase 2 | Phase 3

Pharmacologically tailored for sickle cell disease (SCD)

Olinciguat is an orally administered, once-daily, vascular sGC stimulator designed for the treatment of sickle cell disease (SCD). SCD is a genetic disorder of the hemoglobin, with blood vessel and multi-organ involvement. As such, we believe the distribution of olinciguat to the vasculature as well as to organs with high blood flow, such as the kidney and lungs, makes it particularly well suited for the potential treatment of SCD.

By amplifying nitric oxide signaling, we believe that olinciguat has the potential to:

1.) Improve local blood flow to organs
1.) Reduce vascular inflammation
1.) Reduce the proportion of sickled cells

Clinical Development Status and Late Stage Development Strategy

Olinciguat has been granted Orphan Drug Designation for SCD by the U.S. Food and Drug Administration and is currently in a Phase 2 study in patients with SCD, the STRONG-SCD study. We expect results from this study in mid-2020.

Following the completion of our ongoing Phase 2 study, should data warrant, we intend to rapidly advance olinciguat into late-stage development for SCD.

Commercialization Strategy

If approved, we intend to commercialize olinciguat on our own in the United States and alone, or through licensing arrangements, with partners around the world.

Worldwide rights

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Granted Orphan Drug Designation for SCD by the US Food and Drug Administration (FDA)

Phase 2 data expected in mid-2020

Praliciguat
Systemic sGC Stimulator

Discovery | IND Enabling | Phase 1 | Phase 2 | Phase 3

Diabetic Nephropathy

Heart Failure with Preserved Ejection Fraction (HFpEF)

Pharmacologically tailored for serious cardiometabolic diseases

Praliciguat is an orally administered, once-daily systemic sGC stimulator designed for the treatment of serious cardiometabolic diseases such as Diabetic Nephropathy, or DN, and Heart Failure with Preserved Ejection Fraction, or HFpEF. In a preclinical study, oral praliciguat demonstrated extensive distribution to adipose tissue, kidney, heart and liver, and the extensive distribution of praliciguat has been confirmed in clinical studies. We believe this is fundamental to its potential to be a breakthrough therapy for cardiometabolic diseases characterized by adipose inflammation and metabolic dysfunction and associated multi-organ etiology and involvement.

Clinical Development Status

Praliciguat was granted Fast Track Designation for the treatment of HFpEF by the U.S. Food and Drug Administration and is currently in a Phase 2 proof-of-concept trial, CAPACITY-HFpEF, that is expected to enroll approximately 184 patients. We expect results from this study in the second half of 2019.

Additionally, praliciguat is currently in a dose-ranging Phase 2 study in adult patients with DN that is expected to enroll approximately 150 patients. We expect results from this study in the second half of 2019.

Late-Stage Clinical Development & Commercialization Strategy

Following the completion of our ongoing Phase 2 studies, should data warrant, we intend to out-license praliciguat for late-stage development and commercialization in DN, HFpEF and potentially additional cardiovascular/metabolic indications.

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Granted Fast Track Designation for HFpEF by the U.S. Food & Drug Administration (FDA)

Phase 2 data for HFpEF and for DN expected in 2H 2019

IW - 6463
Central Nervous System sGC Stimulator

Discovery | IND Enabling | Phase 1 | Phase 2 | Phase 3

Pharmacologically tailored for serious neurodegenerative diseases

IW-6463, which we believe is the first and only central nervous system (CNS)-penetrant sGC stimulator to enter clinical trials, is pharmacologically tailored to address neurodegenerative diseases. Nitric oxide is a fundamental neurotransmitter with demonstrated impact on memory and cognition. Its role in neural function was discovered in the late 1970s, but until now there has not been an opportunity to leverage this mechanism to potentially enhance CNS functioning and treat disease. In serious CNS diseases associated with nitric oxide deficiency, we believe IW-6463 may amplify endogenous nitric oxide signaling to alleviate neurodegenerative pathology at the cellular level and thereby restore neuronal health and function. More broadly, in neurodegenerative diseases of varying etiologies, we believe that IW-6463 has the potential to enhance cognition and combat neurodegeneration via the neuroprotective and neurofunctional benefits of nitric oxide signaling.

In preclinical studies, IW-6463 demonstrated significant exposure in the CNS. Treatment with IW-6463 was associated with increases in cerebral blood flow, reductions in markers of neuroinflammation, increased neuroprotection and enhanced cognition across a variety of preclinical models.

Clinical Development Status

We initiated a Phase 1 first-in-human study in the first quarter of 2019, and expect topline data from this trial in the second half of 2019.

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Phase 1 data expected in 2H 2019

Liver
Liver-targeted sGC Stimulator

Discovery | IND Enabling | Phase 1 | Phase 2 | Phase 3

Pharmacologically tailored to address serious and orphan liver diseases

Our liver-targeted sGC stimulator will be orally administered and designed to selectively partition to the liver. In preclinical models of liver fibrosis treated with systemic sGC stimulators, we have observed reductions in liver fibrosis, inflammation and steatosis, pathophysiological processes that underlie multiple chronic liver diseases. By achieving liver concentrations many fold higher than corresponding plasma concentrations, we intend to maximize hepatic pharmacology.

Development Status

We expect to nominate a development candidate in the first half of 2019 and to file an IND/CTA thereafter.

Lung
Lung-targeted sGC Stimulator

Discovery | IND Enabling | Phase 1 | Phase 2 | Phase 3

Pharmacologically tailored to address serious and orphan pulmonary diseases

Our lung-targeted sGC stimulator will be administered via inhalation and will be aimed at realizing the full potential of sGC stimulation in pulmonary diseases by selectively increasing exposure in the lung. Preclinically, our lead molecule is highly retained in the lung with greater than 50-fold selectivity for lung over plasma. In addition, in preclinical studies, our lead molecule is metabolically stable in the lung, whereas it is unstable in the plasma with rapid systemic clearance.

Development Status

We expect to nominate a development candidate in the first half of 2019 and to file an IND/CTA thereafter.

*Status of sGC programs as of May 13, 2019. Represents ongoing phase of development, does not correspond to the initiation or completion of a particular phase.