



## EXECUTIVE SUMMARY

### COMPANY

Seven Biosciences is a GPCR targeted drug discovery company which engineers and uses cutting-edge technology. Seven's proprietary technology are fluorescent sensors based on any GPCR, which enables the functional visualization of the conformational change of the receptor in response to the binding of a given compound in real-time. The technology can be used for high throughput screening of compound libraries against GPCR targets, including orphan GPCRs (for which the endogenous ligand is not known), as well as for profiling the physiologically relevant effects of candidate molecules. Additionally, Seven's GPCR sensors can be expressed in vivo – enabling the monitoring of compound effects at the site of action in awake behaving animals and in disease models undergoing treatment with unmatched spatial and real-time temporal resolution.

### MARKET

Drugs targeting GPCRs account for over 27% of the global market shares, generating sales of more than \$200 billion annually. However, while 108 GPCRs have been targeted by FDA-approved medicines, this represents only 27% of the 398 druggable GPCRs in the human genome. This combination of untapped target space with huge R&D efforts to identify and develop new drugs represents a significant revenue opportunity for Seven Biosciences.

GPCRs are vastly underexploited based on several challenging but necessary characteristics: selectivity despite close sequence and structural homology among GPCRs, precise signal modulation within the continuum of receptor activation/ deactivation states and downstream signaling, in many cases the absence of a known endogenous ligand, and the ability to monitor compound activity (pharmacodynamics) directly in vivo in real-time. Seven Biosciences' fluorescent GPCR sensor platform technology addresses each of these aspects of drug discovery within this important target class.

### TEAM

Seven Biosciences is led by CEO and Co-Founder Grace Mizuno, Ph.D., the hands-on domain expert who engineered the company's platform and Co-Founder Lin Tian, Ph.D., an Associate Professor at the University of California, Davis. The company's sensor technology was invented in the Tian lab at UC Davis and since its publication in Science in May 2018 it has been cited over 138 times and has thus far been used to explore dopamine signaling in awake behaving mice associated with learning, motivation, thirst satiety and opioid reinforcement.