IMMUNO PHOTONICS

Elevating Modern Medicine with Novel Multimodal Immune Activation

Therapeutics
Oncology
Stage: clinical, phase 2a

Disease Prevention
Infectious Disease
Stage: preclinical

EXECUTIVE SUMMARY

Immunophotonics, Inc. is a privately owned clinical stage biotech developing the proprietary immune-activating drug candidate IP-001 from intellectual property with platform capabilities in oncology and infectious disease.

ONCOLOGY

- IP-001 is deployable against a variety of solid metastatic cancers.
- IP-001 modulates the tumor microenvironment to favor tumor rejection.
- IP-001 induces a tumor-specific immune response that targets treated tumors and distant, untreated metastases.
- No lab workup is required to trigger an anti-tumor T cell response from whole cell antigen repertoire and answers unmet clinical need.
- Interventional oncology procedures + IP-001 = Interventional Immuno-Oncology™, an innovation combining in situ tumor cell destruction with the power of multimodal immune activation.
- Clinical: Phase 1b completed with safety and tolerability demonstrated. Immune activation with systemic effects observed.
- Opens a multi-billion dollar de novo market opportunity positioned between tumor ablation and immuno-oncology.

INFECTIOUS DISEASE

- Disease associated with SARS-CoV-2 exposure can be prevented using IP-001 as an immunoadjuvant.
- Significantly diminishes SARS-CoV-2 morbidity and mortality with IP-001 in humanized ACE2 receptor expressing mice.
- IP-001 reduces infectious virus levels in the upper airway and lungs.
- Humoral response elicited by nasal vaccine found superior to AddaVax in mouse model.
- Intranasal or subcutaneous applications.

AN EXPERIENCED TEAM, board & advisors with proven track records in the life science industry drive the success of this game changing innovation.

Lu Alleruzzo: CEO & co-founder, MBA/bioengineer

Tomas Hode, PhD: Chief Innovation Officer, co-founder

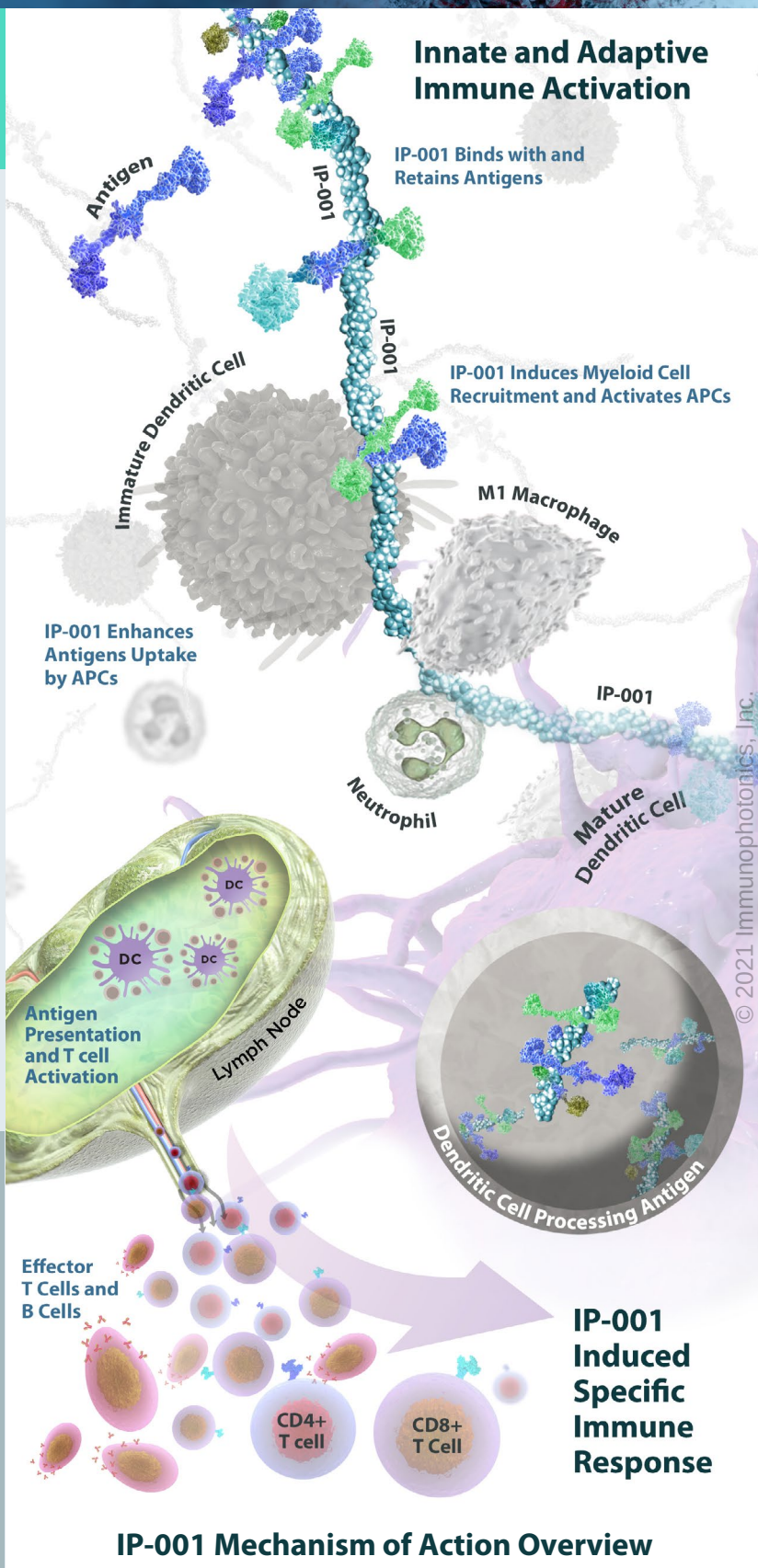
Siu Kit Lam, PhD: Vice President R&D, immunology expert

Theresa Visarius, PhD: Vice President Business Development, clinical pharmacology expert

Bobby Sandage, PhD: Board Chairman, prior public biotech CEO

Jonathan Knowles, PhD: Board Member, prior Genentech & Chugai Board, prior Roche Global Head of Research

Markus Joerger, MD, PhD: Clinical Trial Principal Investigator



IP-001 Mechanism of Action Overview

ONCOLOGY

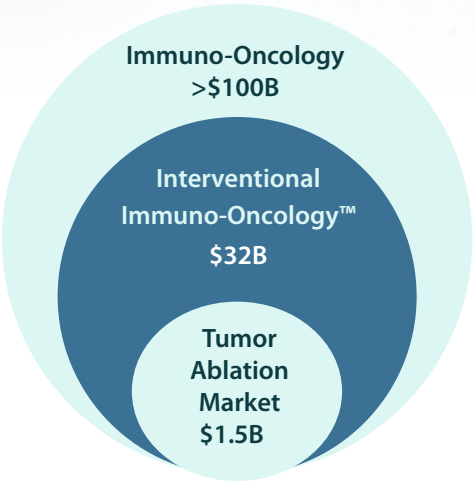
IP-001 ignites a unique, tumor-specific immune response against a variety of solid cancers. It acts by utilizing tumor antigens set free from interventions that induce immunogenic cell death such as tumor ablation, ablative radiation therapies (SBRT), or other intratumoral approaches. Adding IP-001 to these routine procedures can trigger innate and adaptive immune responses against the cancer that work in concert to enable attack of treated and distant tumors, reduce local tumor recurrence, generate a long-term memory response against the cancer. This defines the emerging field of Interventional Immuno-Oncology™.

Early and phase 1 clinical studies have established that the combination of tumor ablation and local injection of the immune stimulating agent IP-001 is feasible and safe. Signs of clinical activity have been observed, although the number of patients thus far is limited. Phase 2a indications include melanoma, soft-tissue sarcoma, colorectal (CRC), lung (NSCLC) and liver (HCC) cancer, paired with respectively established ablation modalities.

IP-001 is currently being developed as a monotherapy. The prominent tumor-specific T cell response induced by IP-001 can prime the patient to be more responsive to checkpoint inhibitors and other downstream immuno-oncology approaches and thus opens opportunities for further development.

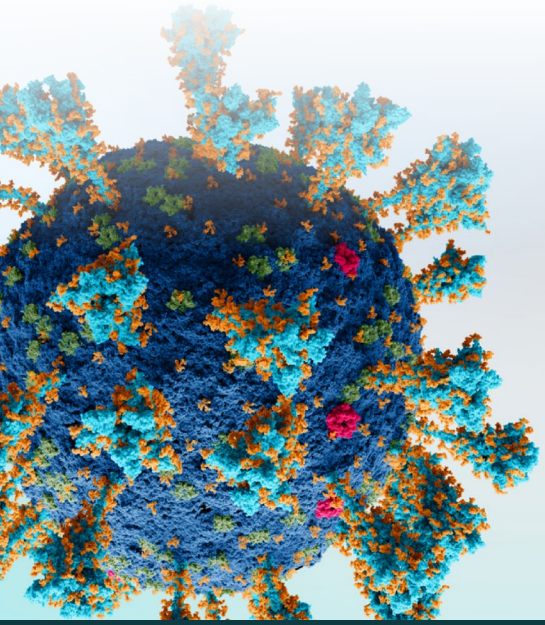
As a first-in-class drug with low COGS, diverse applicability, phase-appropriate CMC strategy and multi-year stability, IP-001 is a high-potential novel therapeutic agent. IP-001 is the first drug designed for use in Interventional Immuno-Oncology™ from broad composition of matter IP with coverage through 2033 and expansion claims through 2038.

Interventional Immuno-Oncology™ Positioning



INFECTIOUS DISEASE

IP-001 has additionally been tested as a vaccine adjuvant based on its natural mucoadhesive properties, its capability to inactivate viruses, and its proven ability to trigger a robust immune response through its unique multimodal immune activation capabilities.



Vaccination of IP-001 with spike protein S1 of the SARS-CoV-2 virus elicited both cellular and humoral immunity against the virus that caused the COVID-19 pandemic. Findings include:

- Nasal vaccination with IP-001 offered close to 80% protection against SARS-CoV-2 infection in the hACE-2 transgenic mouse model compared to all control groups.
- Elevated serum levels of anti-S1 IgG antibodies were detected in IP-001 vaccinated animals.
- The level of S1 specific antibodies triggered by IP-001 was higher than comparator nasal vaccine formulated with AddaVax, a commercial form of MF59 currently used in flu vaccines.
- Single vaccination with IP-001 + SARS-CoV-2 proteins significantly increased total CD8+ T cells, effector CD8+ T cells, total CD4+ T cells, effector CD4+ T cells and B cells (CD45+CD3-B220+) in the lungs.
- In a subcutaneous injection model, cellular immunity was observed with the resulting effector T cell response stronger than that induced by S1 + AddaVax.

Immunophotonics welcomes discussions with strategic partners and investors interested in advancing the technology through commercialization.

FOR FURTHER INFORMATION, CONTACT:

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