UMIPIC: Defining the New Era of Immuno-Oncology Surgery

Series A Fundraising · $50M · 27 Years Clinical Validation · 100,000+ Patients · Multi-Billion Dollar Market

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Chapter 01

Industry Pain Points & Market Opportunity

Global cancer burden intensifies as existing therapies face systemic bottlenecks — a new blue ocean in immuno-oncology surgery is opening

Global Cancer Burden & China's Market Position

China accounts for 24.2% of global new cancer cases and 26.4% of deaths, making it the world's most critical oncology market. The Chinese oncology drug market is projected to exceed $50 billion by 2025, with a CAGR above 12%, driven by rising incidence rates and increasing adoption of innovative therapies.

Global Burden

19.96 million new cancer cases and 9.74 million deaths worldwide in 2022, with lung, breast, and colorectal cancers leading incidence rates.

Pancreatic cancer ranks 6th in mortality with 467,000 deaths annually, reflecting its devastating prognosis and urgent need for innovation.

19.96M

China's Dominance

China reported 4.825 million new cases (24.2% of global total) and 2.574 million deaths (26.4%) in 2022, with both incidence and mortality ranking first worldwide.

Pancreatic cancer incidence reached 119,000 new cases annually, growing at 2.3% year-over-year, creating a rapidly expanding patient pool.

24.2%

Market Size

China's oncology drug market is projected to grow from RMB 429 billion in 2024 to RMB 673 billion in 2025, becoming the core growth engine of the global oncology market.

Immunotherapy now accounts for 30.5% of global oncology spending at $81.6 billion, expected to reach $102.2 billion in 2025.

¥673B

Systemic Bottlenecks in Current Treatment Modalities

All four conventional modalities face fundamental limitations — no intra-operative immune intervention exists globally,
creating a structural blue ocean for UMIPIC.

01

Surgery

Physical resection achieves local debulking but cannot clear micro-metastases, resulting in high recurrence rates.

Surgical trauma suppresses immune function, creating conditions favorable for residual tumor survival.

Recurrence

02

Chemoradiation

Precision radiotherapy controls local tumors but radiation damage to normal tissue limits long-term quality of life.

Chemotherapy exerts non-selective cytotoxicity causing severe systemic side effects with poor tolerance.

Toxicity

03

Immunotherapy

Checkpoint inhibitors transformed late-stage treatment but achieve only 20-30% response rates with resistance.

Particularly ineffective in "cold tumors," leaving most solid tumor patients without meaningful benefit.

20-30%

04

Perioperative Gap

No intra-operative immune intervention product approved globally — "cut without prevent" remains unchallenged.

Perioperative immune activation represents a structural blue ocean with massive unmet clinical demand.

Blue Ocean

UMIPIC Opens a Multi-Billion Dollar Blue Ocean

UMIPIC pioneers the world's first 'Immuno-Oncology Surgery' paradigm, recognized by ARK Invest as a disruptive innovation comparable to cell and gene therapy. The addressable market spans late-stage treatment ($1.14B in the US for pancreatic cancer alone), perioperative immuno-surgery (RMB 10.86B in China), and platform expansion into major solid tumors, collectively constructing a multi-hundred-billion-dollar potential market.

Existing Market

Late-Stage Treatment

China: 119K new pancreatic cancer cases annually, >95% inoperable. 10% penetration yields RMB 1.13B+ annual potential.

US: ~80K new cases at 10% penetration and $150K per treatment yields $1.14B+ annual market potential.

$1.14B US alone

Incremental Market

Immuno-Surgery

China: 4.825M new cancer cases, ~30% surgically eligible (1.448M). 5% penetration at RMB 150K yields 10.86B annually.

Global: >18.5M new cases with ~30% surgical eligibility represents a multi-hundred-billion-dollar opportunity.

¥10.86B China

Platform Expansion

Pan-Solid-Tumor

Liver (368K), gastric (359K), and colorectal (517K) cancers in China represent major expansion targets at 1–3% mid-term penetration.

First project globally focused on immuno-surgical + pan-solid-tumor therapy — creating a new category, not competing for share.

1.24M patients

CHAPTER 02

UMIPIC Solutions & Product Matrix

From late-stage disease control to early-stage immuno-surgical cure — a complete therapeutic pipeline

Three-Tier Product Matrix: From Cash Flow to Blue Ocean

UMIPIC constructs a 'cornerstone + strategic + extension' three-tier product matrix: IOS-1 new drug provides near-term cash flow validated by 100,000+ patients (disease control rate >92.6%, SAE rate 0.19%), the intra-operative immune activation formulation opens a RMB 10.8B immuno-surgical market, and the targeted delivery platform extends technology moats into complex metastatic scenarios.

Cornerstone

IOS-1 Drug

Standardized sustained-release depot formulation with FDA Orphan Drug designation; US-China dual filing bypasses Phase I, saving 2–5 years and tens of millions in costs.

27 years of clinical application across 100,000+ treatments; disease control rate (CR+PR+SD) exceeds 92.63% with SAE rate of only 0.19%.

92.63 % DCR

Strategic

Immuno-Surgery

Upgrades conventional surgery to 'immuno-radical resection' with intra-operative immune intervention intercepting recurrence and micro-metastases at the source.

Addresses 1.448M surgically eligible solid tumor patients annually in China; 5% penetration creates a RMB 10.8B annual market.

¥10.8 B Market

Extension

Targeted Delivery

Develops bone and brain metastasis targeted therapies based on intratumoral nucleic acid delivery, expanding treatment into complex metastatic scenarios.

Builds long-term intellectual property barriers while consolidating technology leadership in local comprehensive solid tumor treatment.

IP Moat

Sustained-Release Depot: A Triple-Layer Drug Design

UMIPIC's Sustained-Release Depot integrates cytotoxic drugs, sustained-release agents, and hapten immunoadjuvants in a triple-layer design inspired by TCM 'Jun-Chen-Zuo-Shi' — achieving ~95% precise local tumor debulking and ~5% systemic immune activation in a single injection.

Base Layer — Sovereign

Cytotoxic drugs directly kill tumor cells intratumorally, releasing large quantities of
tumor-associated antigens (TAAs) to provide precise attack targets for the immune system. This localized destruction creates the foundation for subsequent
immune recognition.

TAA Release

Core Layer — Minister

H_2O_2 sustained-release agent maintains high local drug concentration for 7–20 days, extending therapeutic duration while dramatically reducing systemic toxicity
versus IV chemotherapy. The controlled release profile ensures sustained efficacy.

7–20 Days

Guiding Layer — Courier

Hapten adjuvants modify TAAs into immunogenic neoantigens, activating dendritic cells for antigen presentation and functioning as a personalized tumor vaccine. This transformation bridges innate and adaptive immunity.

Personalized Vaccine

Synergistic Effect

~95% of formulation achieves precise tumor debulking while ~5% immune modulators initiate systemic surveillance, eliminating residual cells and distant micro-metastases. The dual mechanism combines local destruction with systemic
protection.

95% + 5%

Mechanism: From Local Injection to Systemic Immunity

UMIPIC transforms the rare 'abscopal effect' into a controllable therapy through a three-stage immuno-cascade: localized hapten injection triggers antigen release and modification (A), dendritic cell-mediated immune activation engages CD8+/CD4+ T cells and NK cells (B), and activated immune cells migrate systemically to eliminate distant metastases (C) — achieving 'local ignition, systemic response'.

A

Localized Hapten Therapy

Hapten-antigen complexes are injected intratumorally under CT guidance, initiating targeted drug delivery and antigen modification at the primary tumor site.

CT-Guided

B

Immune Activation

Dendritic cells capture neoantigens and present via MHC-I/II pathways, activating CD8+ cytotoxic T cells and Th1 helper cells; NK cells release perforin/granzyme B for tumor lysis.

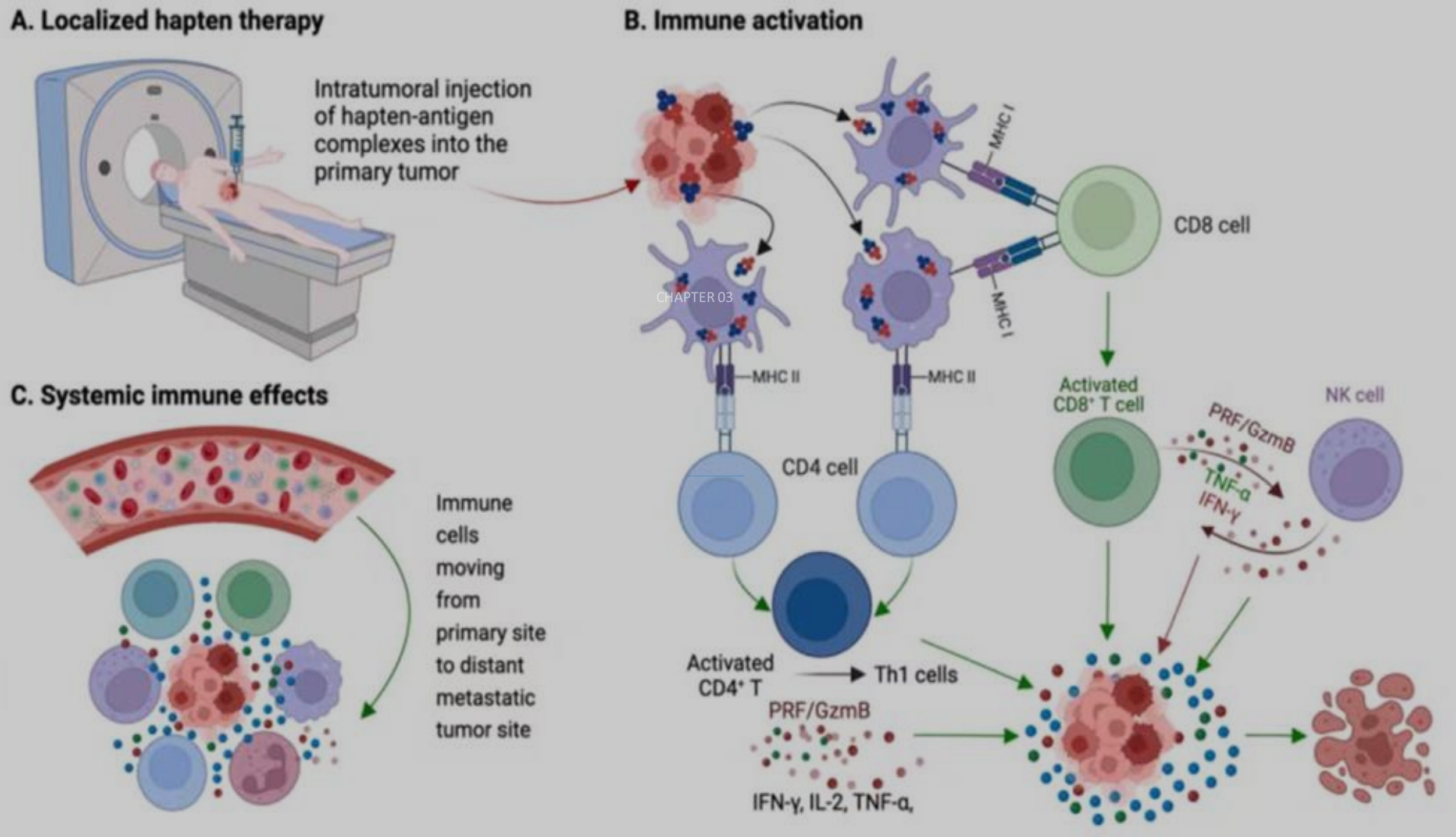
MHC-I / II

C

Systemic Immune Effects

Activated immune cells migrate from the primary site to distant metastatic lesions through the bloodstream, establishing systemic immune surveillance and
long-term immunological memory.

Memory


A. Localized hapten therapy
Intratumoral injection of hapten-antigen complexes into the primary tumor
B. Immune activation
MHC I
MHC I
CD8 cell
MHC II
MHC II
CD4 cell
Activated CD8⁺ T cell
PRF/GzmB
TNF-α
IFN-γ
NK cell
Activated CD4⁺ T
Th1 cells
PRF/GzmB
IFN-γ, IL-2, TNF-α,
C. Systemic immune effects
Immune cells moving from primary site to distant metastatic tumor site

Chapter 03

Clinical Evidence & Mechanism of Action

27 years, 100,000+ patients validated — 5x survival extension from rare abscopal effect to controllable immune activation

Headline Clinical Data: 5× Survival Extension, 80% CTC Suppression

UMIPIC repeat dosing achieves a median OS of 15.5 months (5× extension vs. control), 76.67% six-month survival rate with only 3 doses, 279 neoantigen peptides generated within 30 minutes, and 80% circulating tumor cell suppression —

representing the most comprehensive real-world evidence dataset in immuno-oncology surgery.

Survival Benefit

Median OS of 15.5 months vs. 3 months for irinotecan liposome control — statistically significant **5-fold** survival extension.

76.67% six-month OS rate with only **3 doses** replacing standard 12–15 chemotherapy sessions, dramatically improving patient compliance.

15.5 mo

Immune Activation Evidence

279 new antigenic peptides generated within **30 minutes** post-treatment, verified by HLA-II immunopeptidomics, triggering dual T/B cell response.

Serum antibody levels against 13 oncogenes (P53, Survivin, c-Myc, etc.) significantly elevated, confirming effective humoral immune activation.

279 peptides

Anti-Metastatic Effect

30 paired pre/post samples show 80% CTC suppression; 30% achieved significant decline, 50% maintained low-risk levels.

Results published in **Nature Scientific Reports** and Journal of Cancer, receiving peer-reviewed academic validation.

80% CTC

Immuno-Cascade: Controllable Systemic Activation

UMIPIC converts the historically rare 'abscopal effect' (first described in 1953) into a controllable, reproducible therapy through intratumoral composite drug injection — achieving 'local ignition, systemic response' via a six-step immuno-cascade that uniquely engages both T-cell and B-cell arms of the adaptive immune system.

Steps 1–2: Antigen Release & Modification

Intratumoral high-concentration chemotherapy induces immunogenic cell death, releasing DAMPs and TAAs

Hapten modifies TAAs into immunogenic neoantigens, converting the tumor into a personalized vaccine source

DAMPs + TAAs

Steps 3–4: T-Cell Activation & Killing

Dendritic cells capture neoantigens and cross-present to activate CD8+ cytotoxic T lymphocytes

Activated CTLs migrate to both primary and distant metastatic sites for precise tumor cell killing

CD8+ CTLs

Steps 5–6: Memory & Microenvironment

Subset of T cells differentiates into memory T cells providing sustained long-term immune surveillance

Therapy modulates regulatory T cell ratios in tumor microenvironment, weakening immunosuppression

Memory T cells

Authority Recognition: Five Consecutive Guideline Editions

UMIPIC's sustained-release depot therapy has been consecutively included in five editions (2019-2024) of China's National Pancreatic Cancer Interventional Treatment Guidelines — forming a dual authority endorsement with Nature Scientific Reports and Journal of Cancer.

Guideline Milestones

2019

First inclusion in 3rd edition of National Pancreatic Cancer Interventional Treatment Clinical Practice Guidelines

2020–2024

Consecutively recommended in 4th through 7th editions, demonstrating sustained mainstream medical endorsement over six years

Peer-Reviewed

Multiple research publications in Nature Scientific Reports, Journal of Cancer, and other international peer-reviewed journals

Competitive Differentiation

vs. Surgery

Upgrade Enabler — transforms 'cut-only' procedures into immuno-activated surgeries, intercepting recurrence at the source

vs. Chemoradiation

Disruptive Replacement — high efficacy with low toxicity, local drug concentration sustained for 7–20 days with dramatically reduced systemic side effects

vs. Systemic Immunotherapy

Synergistic Complement — 'local ignition, systemic response' approach potentially overcomes cold tumor resistance and improves response rates

Real-World Data & Pricing Strategy

> *Based on 3,500 real-world patients, UMIPIC achieves >92.63% disease control rate and 15.5-month median OS, supporting premium pricing of RMB 80K-450K (single) and RMB 200K-900K (repeat). With 2.5× survival advantage over*
> *standard second-line therapy and significantly fewer administrations, UMIPIC demonstrates compelling clinical economics and strong pricing power.*

Late-Stage Pancreatic Cancer Treatment Efficacy & Cost Comparison

Treatment Modality	Median OS	Total Cost	Key Characteristics
UMIPIC Repeat Dosing	**15.5 months**	¥200K-900K	3 doses, 5× survival extension, 80% CTC suppression
UMIPIC Single Dose	6.45 months	¥80K-450K	Comparable efficacy to irinotecan, dramatically fewer doses
Irinotecan Liposome	6.1-7.4 months	¥54K-296K	Standard 2nd-line, 12-15 doses required
Arterial Chemoembolization	~6-8 months	¥80K-300K	Local delivery, 2-3 week intervals
Standard IV Chemotherapy	~4 months	¥1.2K-36K	Severe systemic toxicity, 2-3 week cycles

UMIPIC achieves superior survival outcomes with fewer administrations, supporting a 1.5-3× pricing premium over standard therapies

CHAPTER 04

Business Model & Global Expansion

From 'treatment solution' to 'treatment platform' — value escalation through a validated three-track revenue model

Three-Track Revenue Model: A Validated Business Loop

UMIPIC constructs a 'direct sales + platform enablement + ecosystem co-building' three-track revenue model. Per-hospital annual treatment revenue of RMB 20M has been validated; the 'UMPIC Solution Package' achieves high-margin scalable replication through asset-light licensing; and the Global Partner Program builds long-term ecosystem moats through franchising, joint ventures, and co-registration.

TRACK 1

Direct Sales

Sell IOS-1 drugs and proprietary devices to major hospitals; RMB 20M annual treatment revenue per hospital already validated at partner institutions.

Proprietary ancillary treatment devices have achieved product commercialization and market sales, creating additional drug-device synergy revenue.

RMB 20M

TRACK 2

Platform Enablement

Systematize 27 years of clinical practice into 'UMPIC Solution Package' — technology + product + brand one-stop solution for platforms and overseas surgical centers.

Revenue from licensing fees, technical service revenue sharing, and ongoing consumables supply — asset-light, high-margin expansion.

UMPIC Package

TRACK 3

Ecosystem Co-Building

Global Partner Program covers Asia, Americas, and Europe through franchise fees, joint venture operations, and co-registration with regional healthcare leaders.

Localized service networks and continuous training systems ensure quality consistency, forming a deeply entrenched ecosystem moat.

Global Partner

Global Expansion: Phased, Dual-Track Strategy

UMIPIC follows a 'phased, dual-track, ecosystem-cycling' global strategy: Phase 1 validates the model with domestic benchmark centers and clinical sprint; Phase 2 drives simultaneous US-China product launch with platform and ecosystem dual-track deployment; Phase 3 builds a 500+ institution international treatment network with a data-driven
R&D flywheel.

Phase 1

1–2 Years

Complete IOS-1 pivotal clinical research and establish 5–10 benchmark treatment centers with 1–2 leading platform partners.

Validate platform enablement model and single-center profitability model; build foundation for scalable replication.

5–10 Centers

Phase 2

2–4 Years

Drive IOS-1 simultaneous US-China market launch; replicate domestically to 50–100 hospitals and sign 20–30 US clinics.

Launch National Partner Program in Saudi Arabia, Singapore and other priority markets, establishing joint ventures and filing registrations.

US + China

Phase 3

4+ Years

Cover 500+ global medical institutions; leverage real-world data to drive product iteration and indication expansion.

Form a self-reinforcing "clinical → data → R&D → market" flywheel that continuously strengthens competitive moats.

500+ Institutions

Four Irreplicable Competitive Moats

UMIPIC has constructed comprehensive competitive barriers spanning track definition, data accumulation, closed-loop ecosystem, and authority endorsement: as the global first-mover in Immuno-Oncology Surgery, 27 years of 100,000+ patient real-world data forms an insurmountable evidence barrier.

Track Definition Authority

World's first creator of the 'Immuno-Oncology Surgery' paradigm; consecutively included in 5 editions (2019-2024) of national pancreatic cancer guidelines

Established clinical standard leadership — not competing within an existing category but defining an entirely new therapeutic field

5 Editions

Data Moat

27 years, 100,000+ treatments, and 3,500-patient real-world evidence studies with >92.63% disease control rate

Evidence barrier that competitors would need decades to accumulate, providing unassailable clinical validation

100,000+

Closed-Loop Ecosystem

Baofa Medical Group's self-owned hospital network enables complete 'R&D → clinical → commercial' loop with continuous proprietary data generation

Real-time clinical feedback drives product optimization, creating a self-reinforcing cycle that accelerates innovation

R&D → Clinical → Commercial

Authority Endorsement

Founder Prof. Yu Baofa: Foreign Academician of Russian Academy of Natural Sciences, therapy inventor, 100,000+ clinical practitioner

Chief Scientist Craig Mello: 2006 Nobel Laureate in Physiology/Medicine; APA Secretary General Ashok Saluja provides support

Nobel Laureate 2006

World-Class Team: Nobel Laureate & Academician Led

UMIPIC is led by founder Prof. Yu Baofa (Foreign Academician of RANS, therapy inventor, 27-year clinical practitioner with 100,000+ patients), with 2006 Nobel Laureate Prof. Craig Mello as Chief Scientist and APA Secretary General Prof. Ashok Saluja on the advisory board — forming a top-tier team spanning scientific discovery, clinical translation, and global regulatory navigation.

Founder: Prof. Yu Baofa

Foreign Academician, RANS

- UC San Diego research background; returned to China in 1998 to establish first oncology hospital; 27 years with 100,000+ patients treated and patents in China, US, and Australia
- Foreign Academician of Russian Academy of Natural Sciences; 10th NPC representative; State Council Outstanding Entrepreneurship Award recipient

100,000+ Patients

Chief Scientist: Craig Mello

Nobel Prize 2006

- 2006 Nobel Prize in Physiology/Medicine for discovering RNA interference (RNAi) mechanism, pioneering the gene silencing research era
- Howard Hughes Medical Institute Investigator and
  Distinguished Professor at UMass Medical School;
  appointed UMIPIC Chief Scientist in 2025

RNAi Discovery

Scientific Advisory Board

Global Experts

- Ashok Saluja: APA Secretary General, Pancreas Editor-in-Chief, discovered pancreatic cancer target Hsp70 and developed drug Minnelide (Phase I)
- Zhang Jianying: UT El Paso tenured professor, international pioneer in tumor autoantibody early diagnosis, foundational work on tumor antigen-based diagnostics

Hsp70 Target

CHAPTER 05

Financing Plan & Investment Returns

$50M Series A · IRR 80.76% · 3-Year Payback · Clear NASDAQ Listing Pathway

Series A: $50M Allocation & Milestones

> *This Series A round raises $50M at a $290M pre-money valuation, with 76% of capital focused on IOS-1 core clinical development and US-China dual regulatory filing — maximizing value creation efficiency before the critical regulatory inflection point, with first product approval targeted for 2028.*

Capital Allocation ($50M Series A)

Core Use	Amount ($M)	%	Key Milestone
IOS-1 Clinical Development	**38.0**	**76%**	Complete US-China Phase II/III trials, IND/NDA filing
Pipeline Expansion	6.0	12%	New indications and 19 rare tumor pre-clinical studies
Operations & Team	4.0	8%	Core team expansion and operational infrastructure
CMC & Market Prep	2.0	4%	GMP supply chain and academic marketing launch

76% of capital focused on core clinical development, maximizing value creation before the critical regulatory inflection point

IRR 80.76%, 3-Year Payback

The project achieves an after-tax IRR of 80.76% (far exceeding biotech benchmarks) with a 3.04-year payback period and 35.5% steady-state sales margin. Revenue is projected to grow from $17.6M in launch year to $250M by year five (2032), with $1.155B cumulative net profit over ten years.

Core Financial Metrics

After-tax IRR of 80.76% far exceeds biotech industry benchmarks; payback period of 3.04 years classifies as a rapid-recovery innovative drug project.

Steady-state sales profit margin of 35.5% with average annual profit of ~RMB 115M, demonstrating exceptional profitability.

IRR 80.76%

Revenue Growth Forecast

Launch year revenue projected at $17.6M, growing to $250M by year five (2032) — CAGR significantly above industry average.

Drug sales as cash flow foundation, platform licensing as high-margin growth engine, ecosystem partnerships for long-term regional value.

$250M · 2032

Capital Market Pathway

Targeting NASDAQ listing in 2028–2029; Series A complete, Series B to support pivotal clinical trials, Pre-IPO to bring in long-term capital.

Ten-year cumulative net profit projected at $1.155B, with clear capital appreciation milestones at each financing stage.

$1.155B

Valuation & Exit Strategy

Current pre-money valuation of $290M comprises $200M in IP and data assets (global patent platform, core compound
patents, 100,000+ patient clinical data) and $90M in team and growth options. Primary exit via NASDAQ IPO in 2028–2029 with multiple backup liquidity channels.

01

Valuation Composition

Pre-Money · $290M

$200M 69%

IP & Data Assets

Global patent platform, core compound patents, and 100,000+ patient clinical dataset form the valuation foundation

$90M 31%

Team & Growth Options

Nobel laureate and academician-led team, integrated R&D-clinical-commercial ecosystem, exclusive new track potential

02

Exit Mechanisms

Primary + Backup Channels

PRIORITY PATH

NASDAQ IPO 2028–2029

Series A complete, Series B and Pre-IPO to introduce strategic capital in phases with clear capitalization milestones

BACKUP CHANNELS

Multi-Channel Liquidity

Company premium buyback, next-round priority exit rights, equity transfers, and periodic dividend distributions ensure investor liquidity

Global IP Portfolio & Organizational Architecture

UMIPIC has built a comprehensive global patent portfolio covering China, US, and Australia, with core compound (IOS-1), treatment method, and device patents forming three-dimensional IP protection.

Global Patent Layout

Invention patents authorized across China, US, and Australia covering core compound IOS-1 and treatment methods; 10+ utility patents form three-dimensional protection

Key patents include US Patent 6,811,788 B2 (cancer treatment compositions), US Patent 8,501,243 B2 (organ-targeted therapy), and PCT applications for broader coverage

3 Countries

Tripartite Architecture

US IOS handles FDA registration and international multi-center clinical trials; Jinan Jiazuo focuses on new drug R&D; Jinan Youke develops proprietary devices

Baofa Medical Group's Taimei Baofa Oncology Hospital and Jinan Xicheng Hospital form the core clinical validation network with real-time feedback

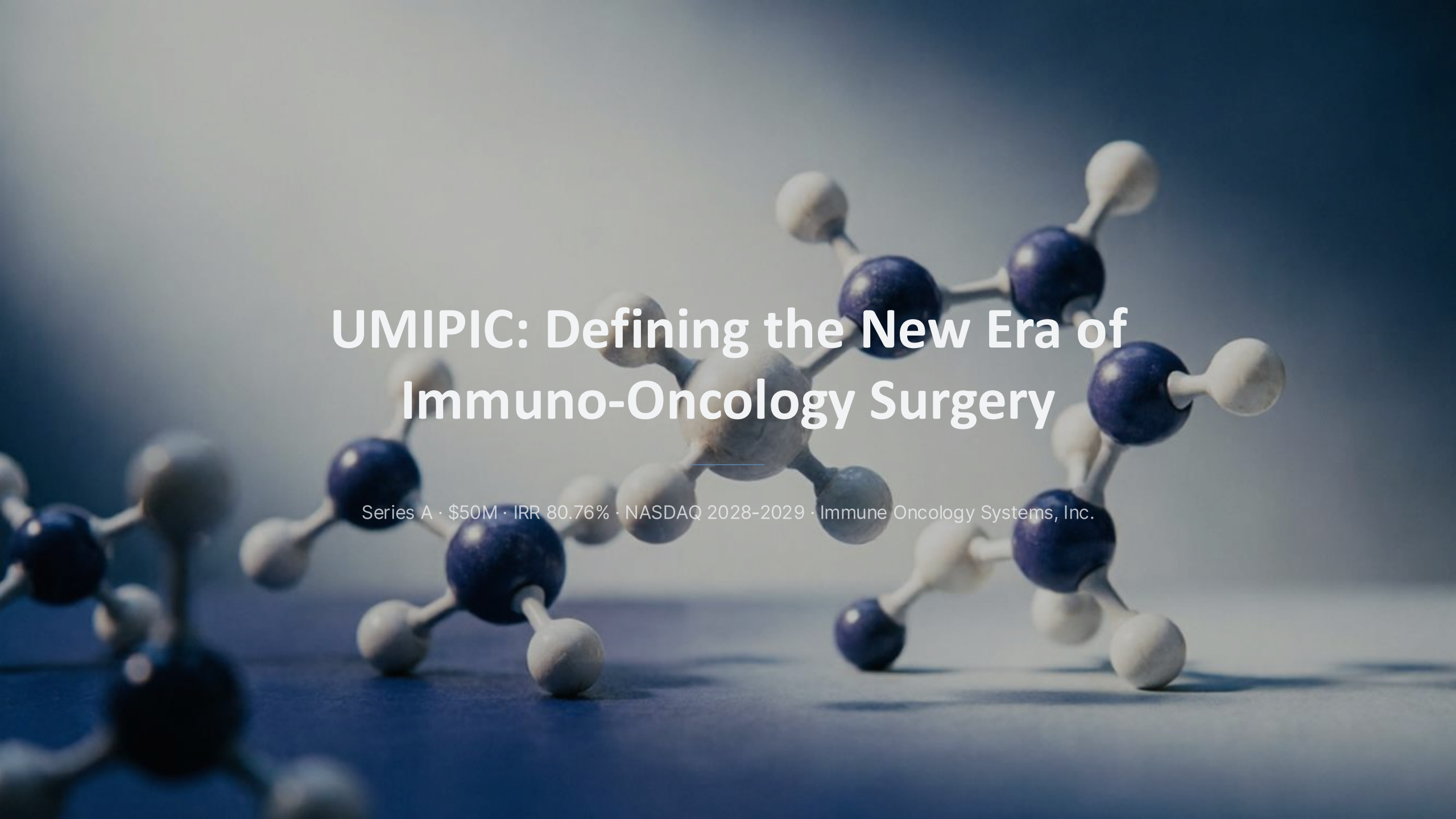
3 Pillars

Strategic Collaborations

Clinical research partnerships with Peking University Cancer Hospital and Shandong Cancer Hospital for evidence accumulation and indication expansion

Collaborative network supports rapid clinical translation and regulatory evidence generation across multiple tumor types and treatment scenarios

2 Key Partners



UMIPIC: Defining the New Era of Immuno-Oncology Surgery

Series A · $50M · IRR 80.76% · NASDAQ 2028-2029 · Immune Oncology Systems, Inc.