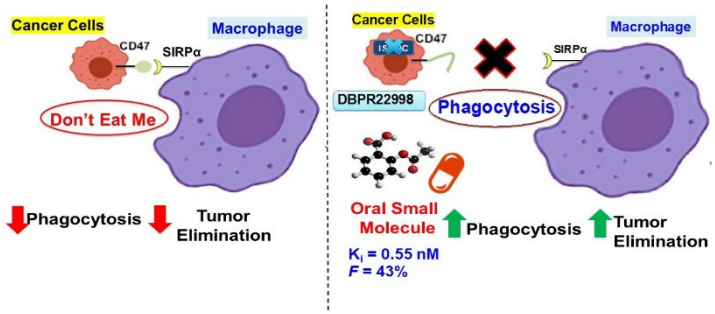
DBPR22998：A Potent QPCTL (IsoQC) Inhibitor Targeting CD47-SIRPα Axis for Cancer Immunotherapy

Drug Introduction

- DBPR22998 is an orally bioavailable and selective isoQC (QPCTL) inhibitor targeting CD47-SIRPα 'Don't-eat-me' immune checkpoint axis.
- Indications include B-cell lymphoma and solid tumors
- Currently in preclinical development stage.
- Covered by patents in multiple countries including the US, Taiwan, Japan and South Korea.

Drug Mechanism

- Inhibit key regulator of CD47 protein synthesis enzyme isoQ (QPCTL) activity to enhance macrophage-mediated phagocytosis of cancer cells.



Drug Comparison

- Compared to clinical-stage isoQC inhibitor PQ912:
  - Demonstrate stronger in vitro isoQC inhibitory activity.
  - Exhibits superior in vivo anti-tumor efficacy.
- Compared to anti-CD47 monoclonal antibodies:
  - Avoid 'antigen sink' effect
  - Do not cause hemolysis or thrombocytopenia.
- Unlike current anti-CD47 antibody therapeutics, DBPR22998 is an oral small molecule with distinct pharmacologic advantages.

In Vivo Experimental / Preclinical Data

- In vivo efficacy:
  - Induce tumor regression and prolong animal median survival days in combination with standard-of-care agents.
- Non-GLP toxicity evaluation:
  - 14-day non-GLP repeated-dose toxicity study in rats showing preliminary safety profile.
- Pharmaceutical development:
  - Preclinical kilogram-scale production of active pharmaceutical ingredient (API) is available.

Key Business Takeaways

- Innovation: Novel small molecule isoQC inhibitor provides an alternative to anti-CD47 antibody therapies.
- Safety Advantage: Free from antigen sink effect, no red blood cell or platelet toxicity.
- Therapeutic Potential: Suitable for combination therapy with therapeutic antibodies, chemotherapy, radiotherapy, and immune checkpoint inhibitors.
- Market Positioning: a best-in-class small molecule cancer immunotherapy agent.
- IP Protection: Strong patent coverage globally for both composition and indication.

Intellectual Properties

- **Substance Patent:** TWI715156, US10,584,120B2, AU, JP, KR, CA, ZL, IN, SG, Europe pending
- **Indication Patent**: TWI804339, US and PCT pending

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