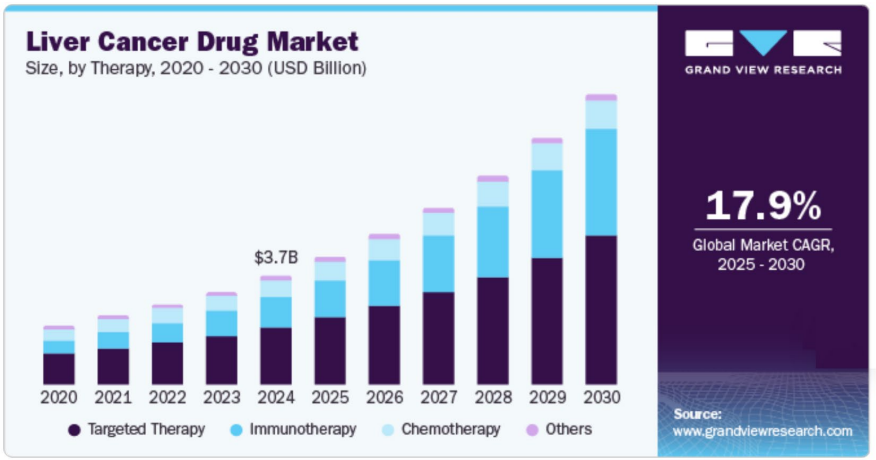
DBPR807: A Highly Selective and Potent CXCR4 Antagonist for Hepatocellular Carcinoma Treatment

Institute of Biotechnology and Pharmaceutical Research National Health Research Institutes

Disease Background and Market Analysis



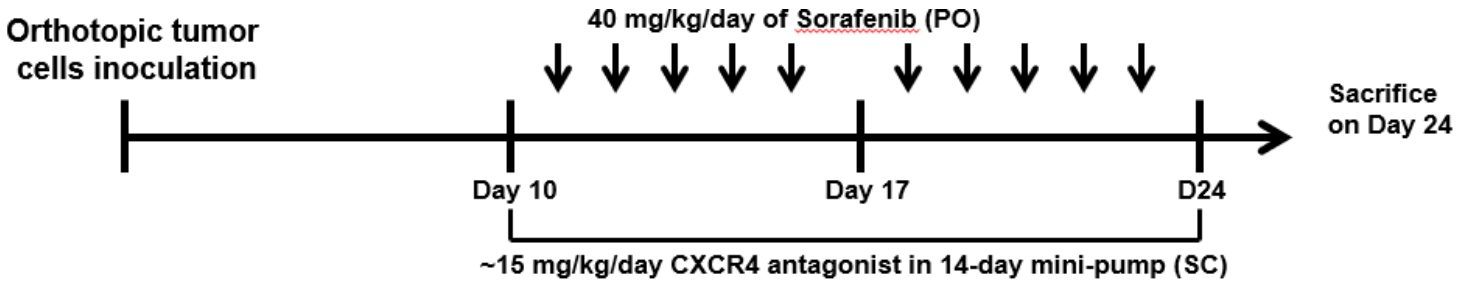
- The global liver cancer drug market size was valued at USD 3.67 billion in 2024 and is projected to grow at a CAGR of 17.9% from 2025 to 2030.
- According to the American Cancer Society, more than 800,000 people are diagnosed with liver cancer each year, accounting for more than 700,000 deaths each year worldwide. Factors such as alcohol consumption, hepatitis B & C infections, obesity, and fatty liver disease are expected to contribute to a growing incidence rate of liver cancer.
- The development of novel therapies and treatment options for liver cancer, including targeted therapies, immunotherapies, chemotherapy, and combination therapies, has fuelled the market growth.

Drugs Approved for Liver Cancer Treatments

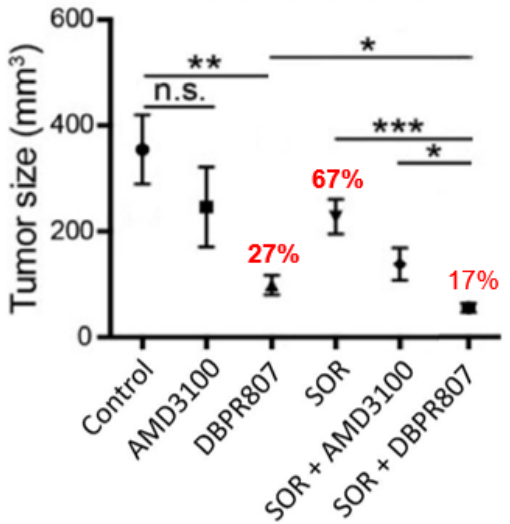
Drug	Company	Target
Nexavar 【Sorafenib】	Bayer	VEGFR1-3, PDGFR, Raf kinase
Stivarga 【Regorafenib】	Bayer	VEGFR1-3, and TIE2 kinase
Lenvima 【Lenvatinib】	Eisai and Merck	VEGFR1-3, FGFR1-4, RET, KIT, PDGFR
Cabometyx【Cabozantinib】	Exelixis	VEGFR2, C-Met, AXL, RET
Cyramza【Ramucirumab】	Eli Lilly	VEGFR2 antibody
Avastin 【 Bevacizuma】 Tecentriq 【Atezolizumab】	Genetech	VEGF antibody PD-L1 antibody
Opdivo 【Nivolumab】 Yervoy 【Ipilimumab】	BMS	PD-1 antibody CTLA-4 antibody
Keytruda【Pembrolizumab 】	Merck	PD-1 antibody
Imfinzi 【Durvalumab】	AstraZeneca	PD-L1 antibody
Imjudo 【Tremelimumab】	AstraZeneca	CTLA-4 antibody

There are 12 FDA approved anti-liver cancer drugs on the current market, including 6 kinase inhibitors and 6 checkpoint inhibitors. First-line drugs are marked with yellow

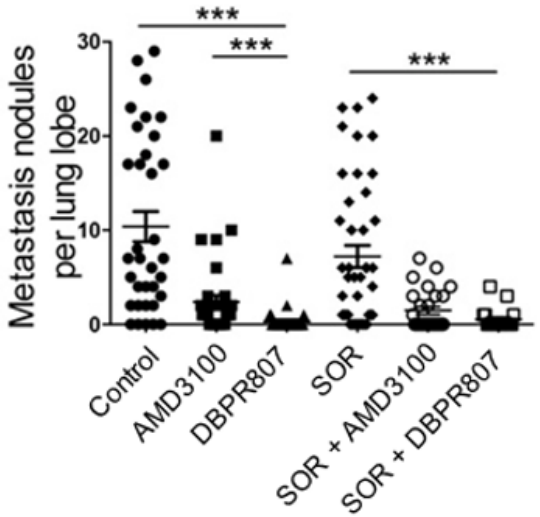
Product – Key Data or POC Data



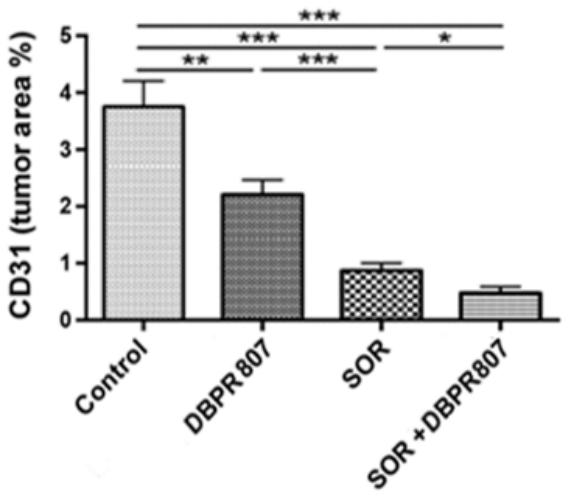
Reduce tumor size



Inhibit metastasis

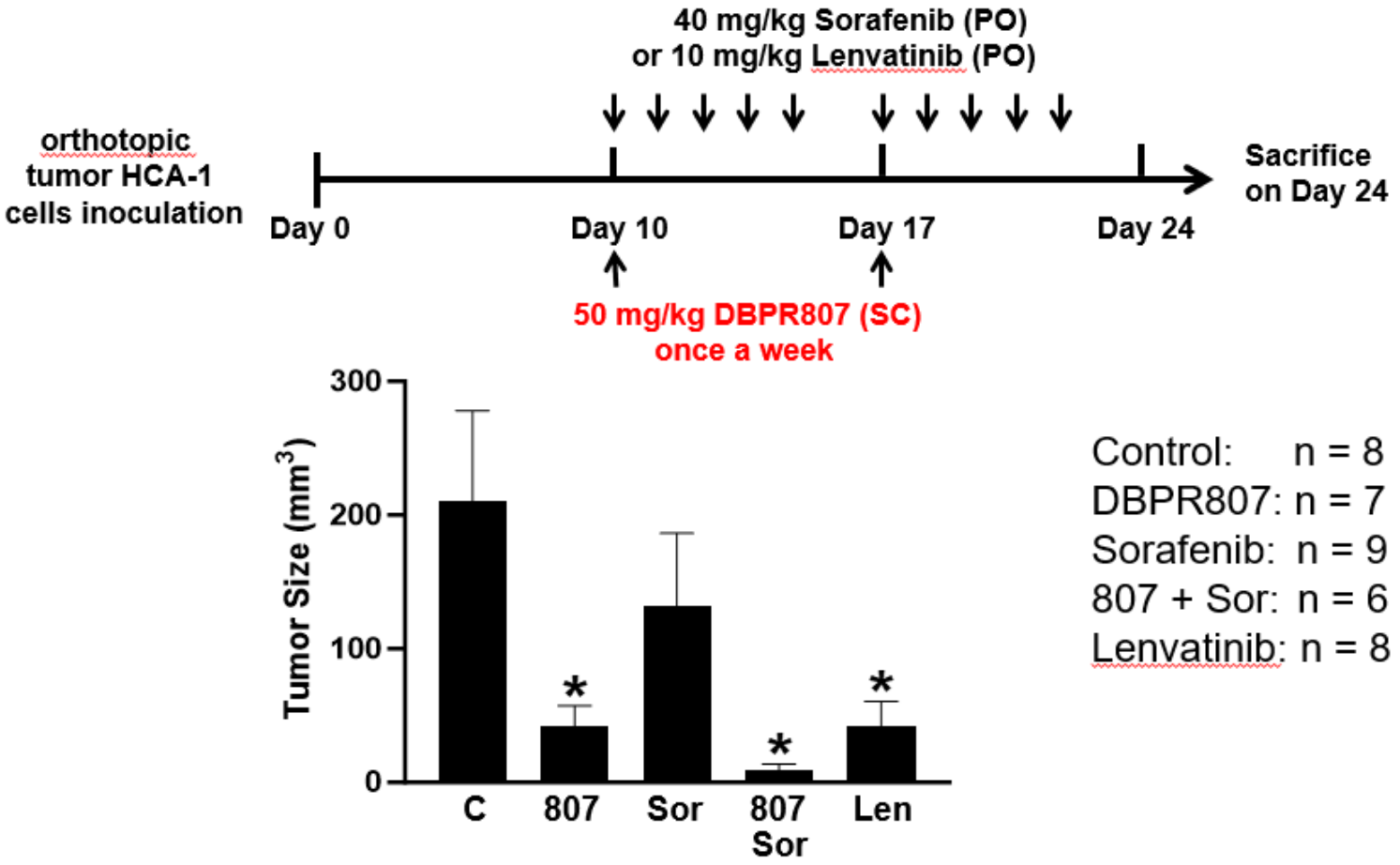


Decrease angiogenesis



- Showed synergistic effect when combined with sorafenib.
- When treated or combined with sorafenib, BPRCX807 can significantly suppress lung metastasis relative to control or sorafenib-treated alone.
- Superior efficacy in reducing liver tumor as compared to its CXCR4 counterpart AMD3100。

Product – Key Data or POC Data



- Showed synergistic effect when combined with sorafenib.
- Good overall ADME and pharmaceutical properties for clinical development (SC administration, QW).
- Potential “First-in-Class” CXCR4 antagonist for liver cancer.

Product Summary

Key Features:

- DBPR807, a highly selective, safe, and potent CXCR4 antagonist, possesses better in vitro and in vivo efficacy than its marketed counterpart AMD3100 under various HCC settings with supreme benefits on combination therapy.
- DBPR807 can significantly synergize with not only antiangiogenic therapy (e.g. sorafenib) but also immunotherapy (e.g. anti–PD-1) to further extend overall survival in HCC models.
- Current results suggest the clinical treatment of DBPR807 for HCC might be administered at a dose of 50 mg/kg (SC) once weekly.

Intellectual Properties & Publication:

- TWI664174, US10882854, AU2018208366, JP6892716, CA3047146, NZ754272, RU2756055C2, KR102335082, IN379503. China (CN110381949), Hong Kong (HK40010586), Macao (ZL201880005371.5), Brazil (BR 112019013493-0)
- Publication of HCC disease indication: PNAS. 2021;118:e2015433118

Market Positioning:

- The combination of DBPR807 and sorafenib is a first-in-class and innovative therapeutic approach for boosting the efficacy of HCC treatment.