<table>
<tr><td>Technology/ Title</td><td colspan="3">DBPR807: A CXCR4-Targeted Antagonist</td></tr>
<tr><td rowspan="2">Technology Type</td><td>☐Biotechnology</td><td colspan="2">☐Device/Diagnostics</td></tr>
<tr><td>■Pharmaceutical</td><td colspan="2">☐Others:_____-</td></tr>
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<tr><td>Link</td><td colspan="3">http://ibpr.nhri.org.tw/en/wp-content/uploads/2019/03/NEW-2019_NCR-of-DBPR807_20190306.pdf</td></tr>
<tr><td>Technology Description</td><td colspan="3">➤ When DBPR807 (15 mg/kg/day) was administered subcutaneously (SC) via an osmotic mini-pump in combination with taking sorafenib (40 mg/kg/day) orally for two weeks in the orthotopic HCC mice model, a significant tumor-inhibitory effect was observed, wherein the tumor size was reduced by 85% after two-week treatment. In contrast, the tumor size was only shrunk by 40% as sorafenib was used alone. On the other hand, DBPR807 in combination with PD-1 antibody significantly reduced tumor size by 95%. In contrast, the tumor size was only shrunk by 57% as PD-1 antibody was used alone. After fine tuning, DBPR807 has worked well twice per week (10 mg/kg, IV). In addition, DBPR807 could prevent lung metastasis.
➤ When DBPR807 (SC, 5 mg/kg) was given in the surgery-induced ischemia/reperfusion rat model, a significant heart-protective effect against ischemic damage caused by reperfusion was seen, wherein the volume of cardiac infarction was reduced by 43% in tested animals as compared to the vehicle. In the meantime, LVEF of the DBPR807 treatment group in porcine AMI model was constantly improved and significantly higher than that of the control group as indicated below: 43.21 ± 1.93% vs 41.38 ± 1.49% on Day 1 (*p<0.05), 45.54 ± 4.25% vs 40.82 ± 1.65% on Day 7 (**p<0.01); 51.72 ± 4.14% vs 44.23 ± 2.14% on week 12 (***p<0.001). Thus, above data strongly support that a single-dose treatment of DBPR807 at the onset of IRI may facilitate cardiac function recovery in a continuously increasing manner, and is conducive to the long-term prognosis. Notably, LVEF, falling in between 50%~70%, is generally considered back to the normal conditions.</td></tr>
<tr><td>Intellectual Property</td><td colspan="3">Patent title: Heterocyclic compounds and use thereof
Approval:
USA (US10882854); Taiwan, ROC (TWI664174)
Pending:
PCT (application No. PCT/US18/12748)</td></tr>
<tr><td>Key</td><td colspan="3">1. Song JS, Chang CC, Wu CH, Dinh TK, Jan JJ, Huang KW, Chou MC, Shiue TY, Yeh KC, Ke YY, Yeh TK, Ta YN, Lee CJ, Huang JK,</td></tr>
</table>

Publications	Sung YC, Shia KS, Chen Y. A highly selective and potent CXCR4 antagonist for hepatocellular carcinoma treatment. Proc Natl Acad Sci U S A. 2021;118:e2015433118. **2.** Yeh KC, Lee CJ, Song JS, Wu CH, Yeh TK, Wu SH, Hsieh TC, Chen YT, Tseng HY, Huang CL, Chen CT, Jan JJ, Chou MC, Shia KS, Chiang KH. Protective Effect of CXCR4 Antagonist DBPR807 against Ischemia-Reperfusion Injury in a Rat and Porcine Model of Myocardial Infarction: Potential Adjunctive Therapy for Percutaneous Coronary Intervention. Int J Mol Sci. 2022;23:11730.
Business Opportunity	➢ Hepatocellular Carcinoma: The current market sale of sorafenib is about US$ 1.1 billion, but its patent right will expire in 2020. ➢ Acute Myocardial Infarction: In 2015, approximately 15.9 million people worldwide have suffered from myocardial infarction. In the United States alone, approximately one million people suffer from myocardial infarction each year.