

## Supplemental Information

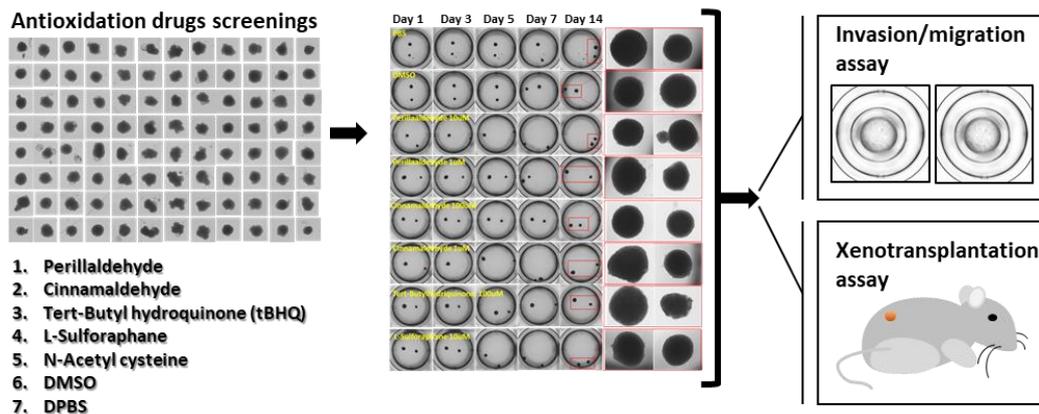
### **Heterogeneity of phase II enzyme ligands on controlling the progression of human gastric cancer organoids as stem cell therapy model**

Deng-Chyang Wu<sup>1-4</sup>, Chia-Chen Ku<sup>1-3</sup>, Jia-Bin Pan<sup>1-3</sup>, Kenly Wuputra<sup>1-3</sup>, Ya-Han Yang<sup>2,4</sup>, Chung-Jung Liu<sup>2-5</sup>, Yi-Chang Liu<sup>3</sup>, Kohsuke Kato<sup>6</sup>, Shigeo Saito<sup>7</sup>, Ying-Chu Lin<sup>8</sup>, Inn-Wen Chong<sup>1,9,10</sup>, Michael Hsiao<sup>11</sup>, Huang-Ming Hu<sup>4,12</sup>, Chao-Hung Kuo<sup>4,13</sup>, Kung-Kai Kuo<sup>2,4</sup>, Chang-Shen Lin<sup>1</sup>, and Kazunari K. Yokoyama<sup>1-3\*</sup>

<sup>1</sup>Graduate Institute of Medicine, <sup>2</sup>Regenerative Medicine and Cell Therapy Research Center, Kaohsiung Medical University, Kaohsiung 807, Taiwan, <sup>3</sup>Cell Therapy and Research Center, Kaohsiung Medical University Hospital, Kaohsiung 807, Taiwan, <sup>4</sup>Division of General and Digestive Surgery, department of Surgery, Kaohsiung Medical University Hospital, Kaohsiung 807, Taiwan, <sup>5</sup>Division of Gastroenterology, Department of Internal Medicine, Kaohsiung Medical University Hospital, Kaohsiung 807, Taiwan. <sup>6</sup>Department of Infection Biology, Graduate School of Comprehensive Human Sciences, the University of Tsukuba, Tsukuba 305-8577, Japan. <sup>7</sup>Saito laboratory of Cell Technology, Yaita 239-1571, Tochigi, Japan, <sup>8</sup>School of Dentistry, Kaohsiung Medical University, Kaohsiung 807, Taiwan, <sup>9</sup>Division of Pulmonary and Critical Care Medicine, Kaohsiung Medical University Hospital, Kaohsiung 807, Taiwan, <sup>10</sup>Department of Biological Science and Technology, National Yang Ming Chiao Tung University, Hsinchu 300193, Taiwan. <sup>11</sup>Genome Research Center, Academia Sinica, Nangan, Taipei 115, Taiwan, <sup>12</sup>Department of Internal Medicine, Kaohsiung Municipal Ta-Tung Hospital, Kaohsiung 80145, Taiwan, <sup>13</sup>Department of Internal Medicine, Kaohsiung Municipal Siaogang Hospital 812, Taiwan.

\*Authors to whom correspondence should be addressed; Kazunari K. Yokoyama ([kazu@kmu.edu.tw](mailto:kazu@kmu.edu.tw)); Cell Therapy and Research Center, Kaohsiung Medical University Hospital; Department of Medicine, Graduate Institute of Medicine, Kaohsiung Medical University, Taiwan, Tel; +886-7312. 1001, ext 2729; FAX; +886-7313-3849). ORCID of C-C Ku; 0000-0002-1496-3081; C-S Lin; 0000-0001-7415-2187; K.K. Yokoyama; 0000-0001-8508-7587.

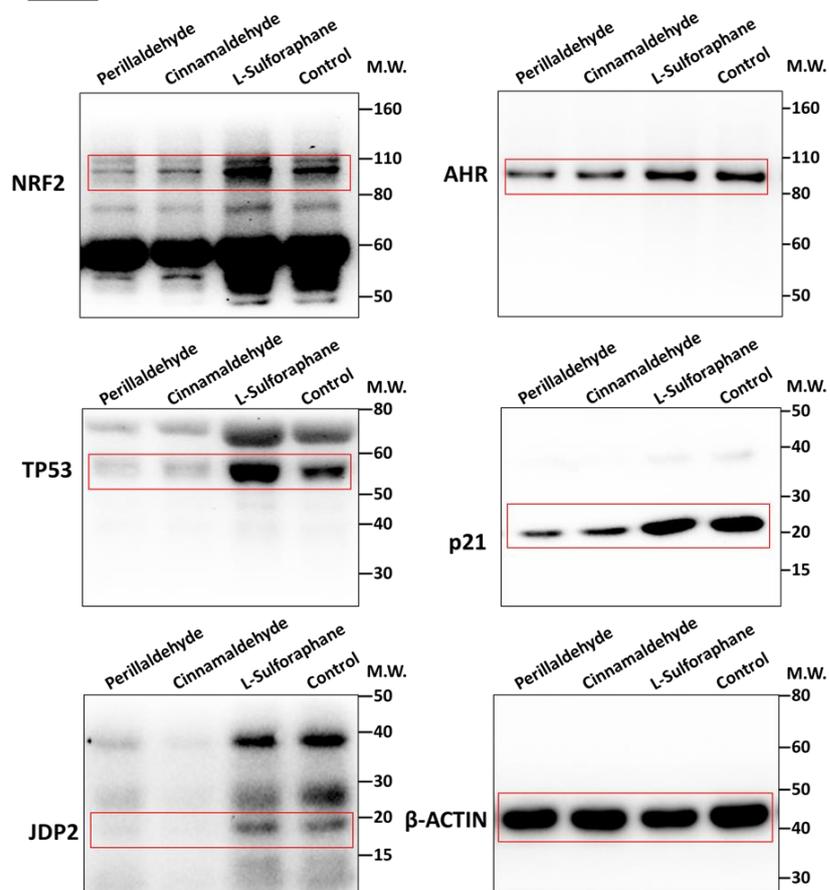
\*Authors to whom correspondence should be addressed; Kazunari K. Yokoyama ([kazu@kmu.edu.tw](mailto:kazu@kmu.edu.tw)); Cell Therapy and Research Center, Kaohsiung Medical University Hospital; Graduate Institute of Medicine, Kaohsiung Medical University, Taiwan, Tel; +886-7312. 1001, ext 2729; FAX; +886-7313-3849). ORCID of C-C Ku; 0000-0002-1496-3081; C-S Lin; 0000-0001-7415-2187; K.K. Yokoyama; 0000-0001-8508-7587.



### Supplemental Figure S1.

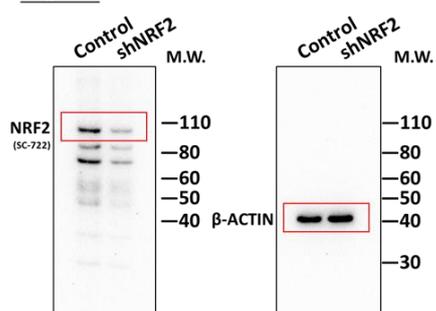
Imaging of drug screening of 3-D organoids cultivation. The  $\sim 500 \mu\text{m}$  of organoids which were generated by digestion with TrypLE reagents and seeded organoids sparsely in Transwells as monolayers ( $\sim 30$  organoid fragments per dome of  $\sim 20 \mu\text{L}$ , about 50,000 cells) with one dome per well of a 24-well plate. For the xenotransplantation assay, we injected organoids in scid mice ( $\sim 100$  organoid fragments per dome of  $\sim 200 \mu\text{L}$ , about 150,000 cells) [56].

**Fig 4C**



**A**

**Fig 6a**



**B**

**Supplemental Figure S2.**

Uncropped raw data of western blots that were used in this article. Results are provided according to the sequence mentioned in the main text (**A**) Figure 4c and (**B**) Figure 6a. The red rectangles represent regions that were cropped to use in the figures of this article.