



Generation of tryptophan hydroxylase 2 gene knockout pigs by CRISPR/Cas9-mediated gene targeting

Ze Li^{1,Δ}, Hai-Yuan Yang^{1,Δ}, Ying Wang¹, Man-Ling Zhang¹, Xiao-Rui Liu¹, Qiang Xiong¹, Li-Ning Zhang¹, Yong Jin¹, Li-Sha Mou³, Yan Liu², Rong-Feng Li^{1,✉}, Dr. Yi Rao^{2,✉}, Yi-Fan Dai^{1,✉}

¹ Jiangsu Key Laboratory of Xenotransplantation, Nanjing Medical University, Nanjing, Jiangsu 211166, China;

² Peking-Tsinghua Center for Life Sciences, PKU-IDG/McGovern Institute for Brain Research, the School of Life Sciences, Peking University, Beijing 100871, China;

³ Shenzhen Xenotransplantation Medical Engineering Research and Development Center, Institute of Translational Medicine, Shenzhen Second People's Hospital, First Affiliated Hospital of Shenzhen University, Shenzhen, Guangdong 518035, China.

Supplementary Table 1 List of off-target sites homologous to Tph2-sgRNA. (NGG / NAG sequences are highlighted in green. Base substitutions are shown in white)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	N	G/A	G
Tph2-sgRNA	T	G	T	A	C	T	C	A	G	T	A	C	G	T	C	C	G	C	C	A	T	G	G
OTS1	G	G	G	A	C	T	C	A	G	T	A	T	G	T	C	C	T	C	C	A	G	G	G
OTS2	T	G	T	G	C	T	C	C	G	T	A	G	C	T	C	C	G	C	C	A	G	A	G
OTS3	C	G	T	C	C	T	C	A	G	T	G	C	G	T	G	C	G	C	C	A	G	A	G
OTS4	T	G	G	A	G	T	C	A	G	T	A	C	C	T	C	C	A	C	C	A	A	A	G
OTS5	T	G	T	T	C	T	C	A	G	C	A	C	A	T	C	C	T	C	C	A	G	G	G
OTS6	T	G	A	A	C	T	C	A	G	C	A	T	G	T	C	C	G	T	C	A	C	A	G
OTS7	T	G	A	A	C	T	C	A	G	C	A	T	G	T	C	C	G	T	C	A	C	A	G
OTS8	T	G	T	A	C	T	C	A	G	G	A	C	G	A	C	C	G	C	A	A	G	A	G
OTS9	T	G	T	C	C	T	C	A	G	T	G	T	G	T	G	C	G	C	C	A	C	A	G
OTS10	C	G	T	C	C	T	C	A	G	T	A	C	C	T	C	A	G	C	C	A	G	A	G
OTS11	T	G	G	T	C	T	C	A	G	T	A	C	T	T	C	T	G	C	C	A	A	G	G
OTS12	T	G	T	T	C	T	C	A	G	T	A	C	C	T	C	T	C	C	T	C	G	G	G
OTS13	T	G	T	T	C	T	C	A	G	G	A	C	G	G	C	C	G	C	C	C	C	A	G
OTS14	T	C	T	A	C	T	C	A	G	T	C	C	G	T	G	C	T	C	C	A	T	G	G
OTS15	T	G	T	A	C	T	C	A	A	T	T	G	G	T	C	C	C	C	C	A	A	A	G
OTS16	T	G	C	A	C	T	C	A	G	T	G	C	C	T	T	C	G	C	C	A	C	A	G
OTS17	T	G	C	A	C	T	C	A	G	T	G	C	C	T	T	C	G	C	C	A	C	A	G
OTS18	T	A	T	A	C	T	C	A	G	T	A	C	A	T	C	C	G	C	T	C	T	A	G
OTS19	T	G	T	A	C	C	C	A	G	A	A	C	G	T	T	C	A	C	C	A	G	G	G
OTS20	T	G	T	A	C	T	C	A	G	T	T	C	G	T	G	C	G	T	C	A	C	G	G

^ΔThese authors contributed equally to this work.

[✉]Corresponding author: Dr. Rong-Feng Li, Jiangsu Key Laboratory of Xenotransplantation, Nanjing Medical University, 101 Longmian Avenue, Nanjing, Jiangsu 211166, China. Email:lirongfeng@njmu.edu.cn; Dr. Yi Rao, Peking-Tsinghua Center for Life Sciences, PKU-IDG/McGovern Institute for Brain Research, the School of Life Sciences, Peking University, Beijing 100871, China. Email:yrao@pku.edu.cn; Dr. Yi-Fan Dai, Jiangsu Key Laboratory of Xenotransplantation, Nanjing Medical University, 101 Longmian

Avenue, Nanjing, Jiangsu 211166, China. Email:daiyifan@njmu.edu.cn.

Received 5 March 2017, Revised 29 March 2017, Accepted 14 April 2017, Epub 18 May 2017

CLC number: R284, Document code: A

This is an open access article under the Creative Commons Attribution (CC BY 4.0) license, which permits others to distribute, remix, adapt and build upon this work, for commercial use, provided the original work is properly cited