

Report for Joint/Usage Research Program for Endocrine/Metabolism (Fiscal Year 2017)

Date: 2018/4/22

To Director of Institute for Molecular and Cellular Regulation, Gunma University

Principal Applicant	
Institution	Beijing Tongren Hospital
Position	Professor
Name	Jinkui Yang

We report on the results of joint research in fiscal 2017 as below.

(Program No.)

1. Research Title	Berberine promotes insulin secretion through hERG2 channel				
2. Purpose and Significance of the research project	To investigate the target protein and the function of a Chinese traditional medicine Berberine in pancreatic β -cells.				
3. Period of The Program	April 1, 2017 ~ March 31, 2018				
4. Project Members					
Name	Age	Gender	Institution/Department	Position	Role
(Principal Applicant) Jinkui Yang	55	M	Beijing Tongren Hospital	Professor	Project director
(Research Collaborators) Miaomiao Zhao	25	F	Beijing Tongren Hospital	Student	Experiment executor
Hao Wang	35	M	Institute for Molecular and Cellular Regulation, Gunma University	Assistant Professor	Experimental Supervision, Investigation, and methodology
※If additional space is required, attach a separate sheet.					
5. Collaborative Researcher of IMCR	Name of the Laboratory	Molecular Endocrinology and Metabolism	Name	Tetsuro Izumi	



6. Research Plans

- To confirm whether berberine could promote insulin secretion in pancreatic β -cells.
- To examine the effects of berberine on biphasic glucose-stimulated insulin secretion in isolated islets.
- To investigate the target protein of berberine in pancreatic β -cells by using berberine chemical beads.

7. Research results:

- Berberine promoted insulin secretion only under high glucose stimulation but not in low glucose condition..
- Berberine potentiates insulin secretion in biphasic glucose-stimulated insulin secretion in isolated islets.
- Berberine can directly bind to hERG2 protein in pancreatic β -cells.

8. Publications and/or Presentations resulting from Joint Research Program with IMCR.

① Please describe a list of publications in which the name of the collaborative researcher of IMCR appears and send one paper reprints of each publication to IMCR.

None

② Please describe a list of publications which include the description that the research is supported by Joint Research Program with IMCR and send one copy of each publication to IMCR.

None

