

AOCC

2023

in conjunction with

IMKASID

2023

THE 11<sup>th</sup> ANNUAL MEETING OF THE ASIAN ORGANIZATION FOR CROHN'S AND COLITIS  
IN CONJUNCTION WITH THE 6<sup>th</sup> INTERNATIONAL MEETING ON INTESTINAL DISEASES  
AND THE ANNUAL CONGRESS OF THE KOREAN ASSOCIATION FOR THE STUDY OF  
INTESTINAL DISEASES

*Communicate. Collaborate. Create.*

APRIL 13(Thu) – 15(Sat), 2023

**BEXCO, BUSAN, KOREA**



Asian Organization for  
Crohn's & Colitis



**kasid**







Korean Association for the Study of  
Intestinal Diseases



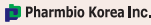







## PROGRAM AT A GLANCE

DAY 1: APRIL 13 (Thu)			
Time	Room B (1F)	Room C (2F)	Room D (2F)
10:00-12:00	<b>IUS Hands-on Training</b> (Room 211~213)		
13:00-14:30	Clinical Forum 1	The 1 <sup>st</sup> Regional Academic Partnership for Intestinal Diseases (RAPID) Forum	AOCC Education Forum 1
14:30-14:50	Coffee Break & Poster Viewing		
14:50-16:20	Clinical Forum 2	AOCC for Surgeons	AOCC Education Forum 2
16:20-16:40	Coffee Break & Poster Viewing		
16:40-18:10	MDT Case Discussion	Basic Forum	KASID-GEST Joint Symposium

## PROGRAM AT A GLANCE

DAY 2: APRIL 14 (Fri)				
Time	Room A (2F)	Room B (1F)	Room C (2F)	Room D (2F)
07:30-08:00		Breakfast with Master 1 (Room 211) 	Breakfast with Master 2 (Room 212) 	Breakfast with Master 3 (Room 213) 
08:30-09:10	Opening Ceremony			
09:10-10:10	AOCC Plenary Session			
10:10-10:30	Coffee Break & Poster Viewing			
10:30-12:00	Clinical Forum 3	KASID-KSAR Joint Symposium	KASID-JSIBD Joint Symposium	Colorectal Neoplasm
12:00-12:10	Break			
12:10-12:50		Luncheon Symposium 1 	Luncheon Symposium 2 	
12:50-13:30		Luncheon Symposium 3 	Luncheon Symposium 4 abbvie	
13:30-14:10	KASID General Meeting			
14:10-14:30	Coffee Break & Poster Viewing			
14:30-16:00	Poster Oral (Exhibition Hall, 3F)			
16:00-16:30	Coffee Break & Poster Viewing			
16:30-18:00	Clinical Forum 4	KASID-KSGE Joint Symposium	KSPGHAN Symposium	Small Bowel & Nutrition
19:00-20:00	Presidential Dinner (Grand Ballroom, Paradise Hotel Busan)			

## PROGRAM AT A GLANCE

DAY 3: APRIL 15 (Sat)			
Time	Room B (1F)	Room C (2F)	Room D (2F)
07:30-08:00	<b>Breakfast with Master 4</b> (Room 211)  Pharmbio Korea Inc.	<b>Breakfast with Master 5</b> (Room 212)  Eisai Korea Inc.	<b>Breakfast with Master 6</b> (Room 213)  Bristol Myers Squibb
08:40-10:10	Clinical Forum 5	Clinical Forum 6	KASID-MISGKA Joint Symposium
10:10-10:30	Coffee Break & Poster Viewing		
10:30-12:00	AOCC Forum		<b>AOCC for Nurses</b> * Simultaneous Korean-English interpreting will be provided.
12:00-12:40	<b>Luncheon Symposium 5</b>  CELLTRION PHARMA  CELLTRION	<b>Luncheon Symposium 6</b>  DAEWOONG	
12:40-13:20	<b>Luncheon Symposium 7</b>  Pfizer <small>KOREA</small>	<b>Luncheon Symposium 8</b>  FERRING <small>PHARMACEUTICALS</small>	
13:20-13:40	Closing Ceremony		

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## POSTERS

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Poster Oral Presentation

Poster Exhibition

## POSTER ORAL PRESENTATION

- PO-I-06** **Discovering Genetic Factors through Genome-Wide association Study in Non-Hereditary Colorectal Polyposis**  
Jung Hyun Ji<sup>1</sup>, Su Hyun Lee<sup>2</sup>, Chan Il Jeon<sup>2</sup>, Jihun Jang<sup>1</sup>, Jihye Park<sup>1</sup>, Soo Jung Park<sup>1</sup>, Jae Jun Park<sup>1</sup>, Jae Hee Cheon<sup>1</sup>, Sun Ha Jee<sup>2</sup>, Tae Il Kim<sup>1</sup>  
<sup>1</sup> Department of Internal Medicine, Institute of Gastroenterology, Severance Hospital, Yonsei University College of Medicine, Seoul, Korea  
<sup>2</sup> Department of Epidemiology and Health Promotion, Institute for Health Promotion, Graduate School of Public Health, Yonsei University, Seoul, Korea
- PO-I-07** **Bacteroides Fragilis is associated with CMS4 Subtype and Induces CMS4-Specific Genes in Colorectal Cancer**  
Shin Young Chang<sup>1,2</sup>, Dong Keon Kim<sup>1</sup>, Yoojeong Seo<sup>1,2</sup>, Youmi Shin<sup>1,2</sup>, Hyeonhee Lee<sup>1</sup>, Jihye Park<sup>1,3</sup>, Soo Jung Park<sup>1,3</sup>, Jae Jun Park<sup>1,3</sup>, Jae Hee Cheon<sup>1,3</sup>, Tae Il Kim<sup>1,2,3</sup>  
<sup>1</sup> Yonsei University College of Medicine, Institute of Gastroenterology, Seoul, Korea  
<sup>2</sup> Yonsei University, Brain Korea 21 Project for Medical Science, Seoul, Korea  
<sup>3</sup> Yonsei University College of Medicine, Department of Internal Medicine, Seoul, Korea
- PO-I-08** **Identification of the Post-Translational Modification of Sox2 during Progression and Reprogramming of Colorectal Cancer**  
Yoojeong Seo<sup>1,3</sup>, Dong Keon Kim<sup>1</sup>, Youmi Shin<sup>1,3</sup>, Shin Young Chang<sup>1,3</sup>, Jihye Park<sup>1,2</sup>, Soo Jung Park<sup>1,2</sup>, Jae Jun Park<sup>1,2</sup>, Jae Hee Cheon<sup>1,2,3</sup>, Tae Il Kim<sup>1,2,3</sup>  
<sup>1</sup> Institute of Gastroenterology, Yonsei University College of Medicine, Seoul, Korea  
<sup>2</sup> Internal Medicine, Yonsei University College of Medicine, Seoul, Korea  
<sup>3</sup> Brain Korea 21 Project for Medical Science, Yonsei University College of Medicine, Seoul, Korea
- PO-I-09** **Changes in Gut Microbiota and Blood Metabolomics Contribute to the Amelioration of Metabolic Syndrome among Obese Patients with Diabetes After Bariatric Surgery**  
Chih-Yen Chen<sup>1,2</sup>, Wei-Jei Lee<sup>3</sup>, Hsin-Chih Lai<sup>4</sup> Taiwan Association for the Study of Small Intestinal Diseases  
<sup>1</sup> Faculty of Medicine, National Yang Ming Chiao Tung University College of Medicine, Taipei, Taiwan  
<sup>2</sup> Faculty of Medicine, National Yang Ming Chiao Tung University College of Medicine, Taipei, Taiwan  
<sup>3</sup> Department of Surgery, Min-Sheng General Hospital, Taoyuan, Taiwan  
<sup>4</sup> Department of Medical Biotechnology and Laboratory Science, College of Medicine, Chang Gung University, Taoyuan, Taiwan
- PO-I-10** **Development of in vitro Human Enteroendocrine Models by Recapitulating Intestine-Specific Biochemical and Biophysical Cues**  
Hohyeon Han<sup>1</sup>, Yoo-Mi Choi<sup>2</sup>, Dong Gyu Hwang<sup>1</sup>, Jinah Jang<sup>1,2,3</sup>  
<sup>1</sup> School of Interdisciplinary Bioscience and Bioengineering, Pohang University of Science and Technology, Pohang, Korea  
<sup>2</sup> Department of Mechanical Engineering, Pohang University of Science and Technology, Pohang, Korea  
<sup>3</sup> Department of Convergence IT Engineering, Pohang University of Science and Technology, Pohang, Korea



[Poster Oral Presentation 9: IMKASID-2]

PO-I-10

**Development of in vitro Human Enteroendocrine Models by Recapitulating Intestine-Specific Biochemical and Biophysical Cues**

**Hohyeon Han<sup>1</sup>, Yoo-Mi Choi<sup>3</sup>, Dong Gyu Hwang<sup>1</sup>, Jinah Jang<sup>1,2,3</sup>**

<sup>1</sup>School of Interdisciplinary Bioscience and Bioengineering, Pohang University of Science and Technology, Pohang, Korea

<sup>2</sup>Department of Mechanical Engineering, Pohang University of Science and Technology, Pohang, Korea

<sup>3</sup>Department of Convergence IT Engineering, Pohang University of Science and Technology, Pohang, Korea

**Background / Aim :** Mounting evidence reveals that the enteroendocrine system has a vital role in gastrointestinal disorders by regulating gastric homeostasis via gut-derived hormones. Dysbiosis of the enteroendocrine system has been found to be involved in the pathogenesis of inflammatory intestinal diseases. Especially, intestinal serotonin, one of the long-established regulators of gastrointestinal function, has recently attracted interest in that it may modulate membrane permeability of the intestine. Unfortunately, the majority of research on the enteroendocrine system and function heavily relies on animal models which is difficult to directly translate into clinics because of severe inter-species differences. In this regard, we aim to develop in vitro human enteroendocrine models by recapitulating tissue-specific biochemical and biophysical cues in vitro.

**Methods :** To identify the effect of tissue-specific biochemical cues on the maturation and differentiation of enteroendocrine cells, decellularized extracellular matrix (dECM) derived from porcine colon tissue was prepared. NCI-H716 cells, L-cell type among enteroendocrine cells, were cultured on either colon dECM or Matrigel-coated substrate compared to the originally suspension-cultured one. To give biophysical cues to the cells, the cells were encapsulated into colon dECM and 3D bioprinted into hollow tubular shapes, which is the typical geometry of the intestine. The effect of biochemical and biophysical cues was quantified by the expression of genes related to secretory lineage and function and the level of serotonin.

**Results :** In the 2D environment, the colon dECM group showed spontaneous morphological changes likely to be the result of de/trans-differentiation of cells. This trend was further confirmed by the increased expression of markers such as secretory progenitors (DII1), fate-determined enteroendocrine cells (NGN3), and serotonin synthesizing enzyme (TPH1) compared to other groups. Interestingly, the 3D intestinal models showed more than fifteen-thousand-times increase in the serotonin level compared to 2D without external stimuli.

**Conclusion :** Tissue-specific ECM biochemical cues and geometrical biophysical cues enhanced enteroendocrine function in vitro.

**AOCC 2023 in conjunction with IMKASID 2023**  
**- Development of in vitro Human Enteroendocrine Models by**  
**Recapitulating Intestine-Specific Biochemical and Biophysical Cues -**  
**(13-15 April 2023)**

**Hohyeon Han**<sup>1</sup>, Yoo-mi Choi<sup>2</sup>, Dong Gyu Hwang<sup>1</sup>, and Jinah Jang<sup>1,2,3</sup>

1. School of Interdisciplinary Bioscience and Bioengineering, Pohang University of Science and Technology (POSTECH), South Korea,

2. Department of Convergence IT Engineering (CITE), Pohang University of Science and Technology (POSTECH), South Korea,

3. Department of Mechanical Engineering (ME), Pohang University of Science and Technology (POSTECH), South Korea

### **Abstract**

**Background / Aim :** Mounting evidence reveals that the enteroendocrine system has a vital role in gastrointestinal disorders by regulating gastric homeostasis via gut-derived hormones. Dysbiosis of the enteroendocrine system has been found to be involved in the pathogenesis of inflammatory intestinal diseases. Especially, intestinal serotonin, one of the long-established regulators of gastrointestinal function, has recently attracted interest in that it may modulate membrane permeability of the intestine. Unfortunately, the majority of research on the enteroendocrine system and function heavily relies on animal models which is difficult to directly translate into clinics because of severe inter-species differences. In this regard, we aim to develop in vitro human enteroendocrine models by recapitulating tissue-specific biochemical and biophysical cues in vitro.

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### **Conclusion**

- Tissue-specific ECM biochemical cues and geometrical biophysical cues enhanced enteroendocrine function in vitro.

### **Acknowledgement**

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