

# 중앙 대사 연구실

Tumor Metabolism & Therapeutic Oncology Research Laboratory



## 조경래

교수

scho@gist.ac.kr

062-715-3631 (Office)  
062-715-3674 (Lab)

<https://life.gist.ac.kr/tmtor/>

Office 대학 A동 411호  
Lab 대학 B동 402호

## Education

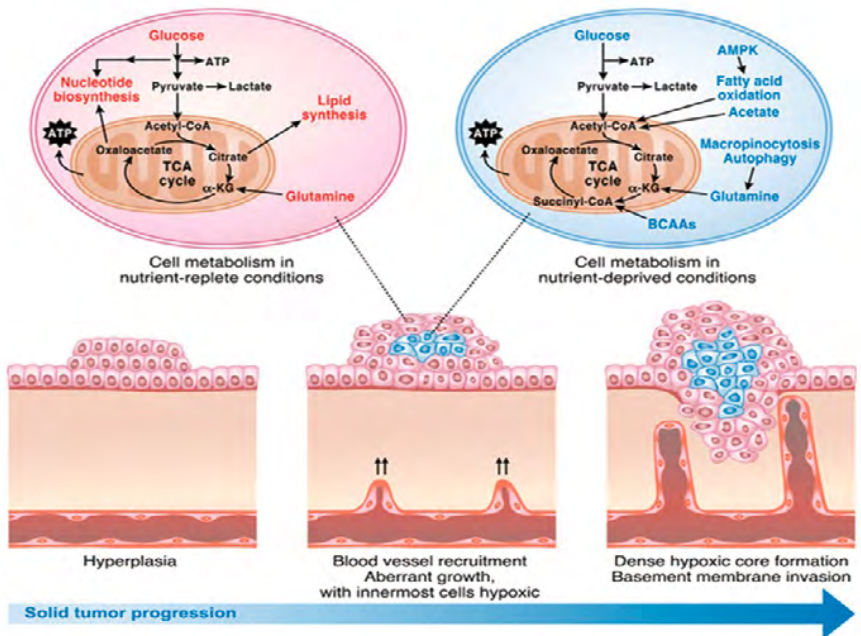
- 2004 Ph.D., Cell Regulation, UT Southwestern Medical Center
- 1995 B.S., Biochemistry, University of California, Los Angeles (UCLA)

## Experience

- 2016 ~ Assistant Professor Department of Biomedical Science & Engineering School of Life Sciences
- 2010 ~ 2016 Assistant Professor Division of Liberal Arts and Science, GIST College
- 2006 ~ 2010 Postdoctoral Research Fellow Department of Neurology The Annette Strauss Center for Neuro-Oncology Simmons Comprehensive Cancer Center University of Texas Southwestern Medical Center
- 2004 ~ 2006 Postdoctoral Research Fellow Department of Neuropathology University of Texas Southwestern Medical Center
- 1994 ~ 1996 Research Associate Division of Hematology-Oncology Cedars-Sinai Medical Center UCLA School of Medicine

## 연구실 소개

중앙대사연구실은 암세포가 생체 내에서 생존하기 위해 어떻게 대사과정을 교묘히 조절하고 재프로그래밍 (metabolic reprogramming)하여, 이를 무한증식에 활용하는지에 대한 심층적 이해와 연구를 궁극적인 목표로 삼고 있다. 특히, 암세포가 무한 증식에 필요한 에너지와 아미노산, 핵산과 같은 생체분자 공급을 원활히 받기 위해 어떻게 정상세포의 대사과정을 미세하게 조작하고, 정상적인 생체분자들의 합성 대사과정을 교묘하게 유용하는지를 다양한 생화학 및 분자세포학적인 방법으로 연구한다. 이를 통해 암세포에서 변형되고 활용된 대사과정 및 단계를 확인하고 이를 표적으로 하는 새로운 개념의 항암제 개발이 이차적인 목표이다



주요논문  
(대표실적)

· Oncogenes Activate an Autonomous Transcriptional Regulatory Circuit That Drives Glioblastoma. *Cel IReports*, 2017 Jan; 18, 961-976.

· PKC $\theta$ -Mediated PDK1 Phosphorylation Enhances T Cell Activation by Increasing PDK1 Stability. *Mol Cells*, 2017 Jan; 40, 37-44.

· Enhanced conjugation stability and blood circulation time of macromolecular gadolinium-DPTA contrast agent. *Materials Science and Engineering C*, 2016 Jan 7;61:659-664.

· Analysis of Tumor Metabolism Reveals Mitochondrial Glucose Oxidation in Genetically Diverse Human Glioblastomas in the Mouse Brain in vivo. *Cell Metabolism*. 2012 Jun 6;15(6):827-37.

· Glucose Metabolism via the Pentose Phosphate Pathway, Glycolysis and Krebs cycle in an Orthotopic Mouse Model of Human Brain Tumors. *NMR in Biomedicine*. 2012. Oct;25(10):1177-86.

· Anti-EGFR Aptamer Biochip for Cancer Cell Isolation and Detection. *Cancer Res*. 2010 Nov 15;70 (22): 9371-80.

· The Telomerase Antagonist, Imetelstat, Efficiently Targets Glioblastoma Tumor-Initiating Cells Leading to Decreased Proliferation and Tumor Growth. *Clin Cancer Res*. 2010 Jan 1;16(1):154-63.