

# **TGF- $\beta$ receptor I inhibitor may restrict the induction of EMT in inflamed intestinal epithelial cells**

Mahsa Ghorbaninejad<sup>1</sup>, Meghdad Abdollahpour-Alitappeh<sup>2</sup>, Shabnam Shahrokh<sup>3</sup>, Sara Fayazzadeh<sup>4</sup>,  
Hamid Asadzadeh-Aghdaei<sup>1</sup>, Anna Meyfour<sup>1\*</sup>

<sup>1</sup>Basic and Molecular Epidemiology of Gastrointestinal Disorders Research Center, Research Institute for Gastroenterology and Liver Diseases, Shahid Beheshti University of Medical Sciences, Tehran, Iran

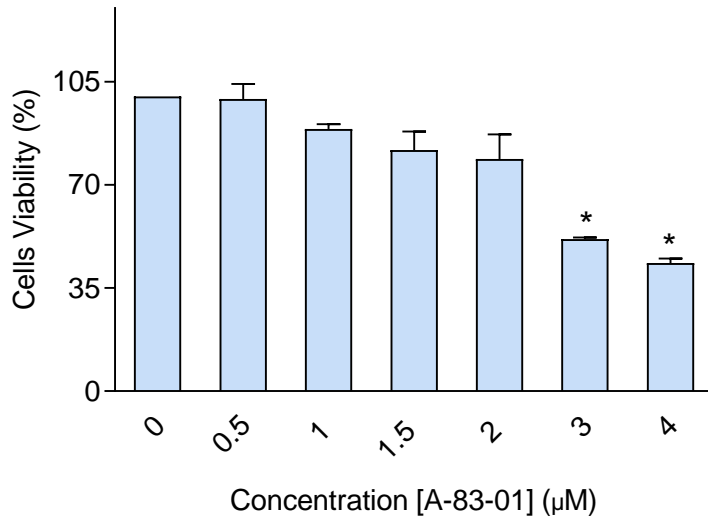
<sup>2</sup>Cellular and Molecular Biology Research Center, Larestan University of Medical Sciences, Larestan, Iran

<sup>3</sup>Gastroenterology and Liver Diseases Research Center, Research Institute for Gastroenterology and Liver Diseases, Shahid Beheshti University of Medical Sciences, Tehran, Iran

<sup>4</sup>Bioinformatics and Computational Omics Lab (BioCOOL), Department of Biophysics, Faculty of Biological Sciences, Tarbiat Modares University, Tehran, Iran

## **Corresponding author:**

**Anna Meyfour**, Ph.D., Research Institute for Gastroenterology and Liver Diseases, Shahid Beheshti University of Medical Sciences, Arabi Ave., Daneshjoo Blvd., Velenjak, Tehran, Iran. Postal Code: 1985717413, Tel: +98 21 22432521. Email: a.meyfour@sbmu.ac.ir



**Supplementary Fig1.** The cells were treated with different concentrations of TGF- $\beta$  (0, 0.5, 1, 1.5, 2, 3 and 4  $\mu$ M, respectively) for 24 hours, and the cell viability was determined by MTS assay. Data are expressed as the mean $\pm$  SEM (n=3) and significant differences are highlighted: \*p<0.05.

**Supplementary Table 1.** List of primers used for quantitative real time (qRT)-PCR

Gene name	Primer sequence 5' → 3'	Product size
<i>GAPDH</i>	F: CTCATTTCTGGTATGACAACGA R: CTCCTCTTGTGCTCTTGCT	121
<i>OCCLUDIN</i>	F: CCACGCCGGTTCCTGAAGTGG R: TCACAGGACTCGCCGCCAGT	199
<i>CLAUDIN7</i>	F: AGCTGCAAAATGTACGACTCG R: GGAGACCACCATTAGGGCTC	75
<i>ZO-1</i>	F: CGGTCCTCTGAGCCTGTAAG R: GGATCTACATGCGACGACAA	371
<i>VIMENTIN</i>	F: AAACCTTAGGGGCGCTCTTGT R: TGAGGGCTCCTAGCGGTTTA	163
<i>CDH1</i>	F: CGAGAGCTACACGTTACCGG R: GGGTGTCGAGGGAAAAATAGG	119
<i>CDH2</i>	F: TCAGGCGTCTGTAGAGGCTT R: ATGCACATCCTTCGATAAAGACTG	94
<i>SNAI1</i>	F: CCAGAGTTTACCTTCCAGCA R: GATGAGCATTGGCAGCGA	102
<i>SNAI2</i>	F: AACTACAGCGAACTGGACAC R: GGATCTCTGGTTGTGGTATGAC	91
<i>CTNNB1</i>	F: CATCTACACAGTTTGATGCTGCT R: GCAGTTTTGTCAGTTCAGGGA	151
<i>ACTA2</i>	F: AAAAGACAGCTACGTGGGTGA R: GCCATGTTCTATCGGGTACTTC	76
<i>TGF-β</i>	F: CCCAGCATCTGCAAAGCTC R: GTCAATGTACAGCTGCCGCA	101
<i>SMAD4</i>	F: CTCATGTGATCTATGCCCGTC R: AGGTGATACAACCTCGTTCGTAGT	146
<i>GAPDH</i>	F: GACTTCAACAGCAACTCCCAC R: TCCACCACCCTGTTGCTGTA	125

**Supplementary Table 2.** Detail information about the Antibody used for western blot.

Antibody	Cat no.	Company	Dilution
Vimentin	ab71144	Abcam	1:2500
E-Cadherin	ab231303	Abcam	1:1000
$\beta$ -Catenin	SC7963	Santa cruz	1:1000
$\alpha$ -SMA	MA5-15871	Invitrogen	1:1000
p-SMAD2	E-AB-21040	Elabscience	1:1000
p-SMAD3	E-AB-21040	Elabscience	1:1000
p-AKT	40S85	Cell signaling	1:1000
RPS6	MAB54361	R&D	1:500
$\beta$ -Actin	60008-1-Ig	Proteintech	1:20000

**Supplementary Table 3.** Demographic characteristics of patients included in the study.

CD: Crohn's disease, UC: Ulcerative colitis, BMI: Body mass index

Variable	Patients		Healthy Controls
	UC	CD	
Number of patients	20	16	24
Age (year)	38.50±14.58	41.75±12.91	39.08±14.20
Gender			
- Male	68%	75%	50%
- Female	32%	25%	50%
BMI (kg/m <sup>2</sup> )	27.49±5.27	26.12±5.92	25.94±4.53
Family history	0	0	0
History of surgery	0	0	0
Smoking status			
- Smoker	3 (20%)	7 (53.84%)	2 (10%)
- Non-smoker	12 (80%)	6 (46.16%)	18 (90%)
Disease duration (month)	58±32.01	59±31.34	0