



Communication

The Effect of Silencing Fatty Acid Elongase 4 and 6 Genes on the Proliferation and Migration of Colorectal Cancer Cells

Aleksandra Czumaj ^{1,*}, Jarosław Kobiela ^{2,3}, Adriana Mika ¹, Emmanouil Pappou ⁴ and Tomasz Śledziński ¹

¹ Department of Pharmaceutical Biochemistry, Faculty of Pharmacy, Medical University of Gdańsk, 80-211 Gdańsk, Poland; adriana.mika@gumed.edu.pl (A.M.); tomasz.sledzinski@gumed.edu.pl (T.Ś.)

² Department of General, Endocrine and Transplant Surgery, Faculty of Medicine, Medical University of Gdańsk, 80-211 Gdańsk, Poland; jaroslaw.kobiela@gumed.edu.pl

³ Department of Surgical Oncology, Faculty of Medicine, Medical University of Gdańsk, 80-211 Gdańsk, Poland

⁴ Department of Surgery, Memorial Sloan Kettering Cancer Center, New York, NY 10065, USA;
pappoue@mskcc.org

* Correspondence: aczumaj@gumed.edu.pl

Citation: Czumaj, A.; Kobiela, J.; Mika, A.; Pappou, E.; Śledziński, T. The Effect of Silencing Fatty Acid Elongase 4 and 6 Genes on the Proliferation and Migration of Colorectal Cancer Cells. *Int. J. Mol. Sci.* **2023**, *24*, x. <https://doi.org/10.3390/xxxxx>

Academic Editor: Rafael Coveñas Rodríguez

Received: 26 November 2023

Revised: 14 December 2023

Accepted: 15 December 2023

Published: 18 December 2023



Copyright: © 2023 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Table S1. Relative expression level of selected fatty acid elongase in control conditions (basic culture medium), in the presence of positive siRNA control (siRNA GAPDH), negative siRNA control (siRNA(-)) and lipofectamine. Data presented as mean \pm SD. * p<0.05 compared to control condition (base medium).

	ELOVL1	ELOVL2	ELOVL3	ELOVL4	ELOVL5	ELOVL6
CCD-841-CoN						
Control	1.01 \pm 0.09	1.03 \pm 0.15	1.13 \pm 0.05	1.02 \pm 0.12	1.05 \pm 0.19	1.02 \pm 0.11
siRNA(-)	1.00 \pm 0.04	1.15 \pm 0.18	1.06 \pm 0.15	1.22 \pm 0.13	0.99 \pm 0.11	0.92 \pm 0.05
siRNA GAPDH	0.97 \pm 0.13	1.00 \pm 0.19	1.05 \pm 0.05	1.08 \pm 0.14	1.08 \pm 0.07	1.10 \pm 0.11
Lipofectamine	1.04 \pm 0.09	1.07 \pm 0.17	1.06 \pm 0.13	1.03 \pm 0.05	0.99 \pm 0.10	0.97 \pm 0.08
HT-29						
Control	1.01 \pm 0.10	1.02 \pm 0.06	1.06 \pm 0.16	1.11 \pm 0.21	1.14 \pm 0.17	1.04 \pm 0.15
siRNA(-)	1.04 \pm 0.27	1.08 \pm 0.05	1.23 \pm 0.03	0.94 \pm 0.05	1.05 \pm 0.18	1.03 \pm 0.17
siRNA GAPDH	1.13 \pm 0.05	1.18 \pm 0.11	1.19 \pm 0.07	1.09 \pm 0.15	0.95 \pm 0.10	1.15 \pm 0.24
Lipofectamine	1.16 \pm 0.22	0.96 \pm 0.08	1.04 \pm 0.09	1.25 \pm 0.11	1.01 \pm 0.15	0.97 \pm 0.11
WiDr						
Control	1.01 \pm 0.04	1.02 \pm 0.03	1.01 \pm 0.02	1.01 \pm 0.08	1.00 \pm 0.04	1.00 \pm 0.10
siRNA(-)	1.12 \pm 0.12	0.99 \pm 0.22	0.95 \pm 0.11	1.10 \pm 0.12	0.98 \pm 0.06	1.16 \pm 0.06
siRNA GAPDH	1.13 \pm 0.03	1.14 \pm 0.06	1.06 \pm 0.07	1.13 \pm 0.06	1.15 \pm 0.12	1.11 \pm 0.06
Lipofectamine	0.99 \pm 0.01	1.12 \pm 0.17	1.20 \pm 0.14	1.17 \pm 0.11	1.04 \pm 0.14	0.98 \pm 0.03

Table S2. Cell viability (%) after 72h incubations with lipofectamine, negative control, and positive control. Data presented as mean \pm SD. * p<0.05 compared to control condition (base medium).

Culture conditions	Cell line type		
	CCD-841-CoN	HT-29	WiDr
Control	100 \pm 4.58	100 \pm 8.87	100 \pm 8.25
Lipofectamine	98.69 \pm 7.45	95.05 \pm 8.86	99.15 \pm 4.45
siRNA(-)	98.46 \pm 7.84	92.14 \pm 1.31	99.75 \pm 2.95
siRNA GAPDH	42.20 \pm 7.82 *	27.25 \pm 7.11 *	23.54 \pm 3.64 *

Table S3. The migration rate [%] of CCD-841-CoN, HT-29, and WiDr at 0h, 24h, 48h and 72h incubation with negative control (siRNA(-)) or lipofectamine. * p<0.05 compared to control condition (base medium).

	0h	24h	48h	72h
CCD-841-CoN				
Control	0.00	40.00 \pm 2.95	55.5 \pm 1.52	100.00 \pm 4.36
siRNA(-)	0.00	32.8 \pm 4.37	63.08 \pm 2.73	97.62 \pm 2.55
Lipofectamine	0.00	36.7 \pm 4.74	66.9 \pm 4.93	99.62 \pm 1.52
HT-29				
Control	0.00	40.02 \pm 2.36	63.00 \pm 4.76	100.00 \pm 3.65
siRNA(-)	0.00	44.3 \pm 7.81	66.1 \pm 2.91	97.4 \pm 5.58
Lipofectamine	0.00	46.84 \pm 2.45	62.62 \pm 4.84	96.39 \pm 4.32
WiDr				
Control	0.00	33.8 \pm 1.69	75.6 \pm 4.42	100.00 \pm 3.66
siRNA(-)	0.00	35.6 \pm 2.26	76.3 \pm 3.84	97.26 \pm 4.51
Lipofectamine	0.00	30.40 \pm 2.25	75.50 \pm 2.51	92.36 \pm 5.58