

APPENDIX A. A. KOMISSAROV ET AL. "ALTERATIONS IN THE EXPRESSION OF PROPROTEIN CONVERTASE GENES IN HUMAN ESOPHAGUS SQUAMOUS CELL CARCINOMAS"

Table A1. The values of the threshold cycle (Ct) of PC genes and the GAPDH reference gene in the analyzed samples

Sample designation	PCSK1_1	PCSK1_2	PCSK1_3	PCSK1_4	PCSK2_1	PCSK2_2	PCSK2_3	PCSK2_4
E1_Normal tissue	n.d.	n.d.	n.d.	n.d.	35.39	35.96	35.62	35.66
E1_Tumor	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
E2_Normal tissue	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
E2_Tumor	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
E3_Normal tissue	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
E3_Tumor	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
E4_Normal tissue	38.36	40.22	39.52	37.88	36.05	35.04	37.29	36.98
E4_Tumor	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
E5_Normal tissue	n.d.	n.d.	n.d.	n.d.	32.23	32	32.12	32.03
E5_Tumor	34.38	34.23	34.42	34.06	31.29	31.48	31.38	31.45
E6_Normal tissue	n.d.	n.d.	n.d.	n.d.	n.d.	39.57	38.27	37.87
E6_Tumor	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
E7_Normal tissue	n.d.	n.d.	n.d.	n.d.	36.33	35.48	35.87	36.07
E7_Tumor	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
E8_Normal tissue	n.d.	n.d.	n.d.	n.d.	37.08	38.04	38.62	37.69
E8_Tumor	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
E9_Normal tissue	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
E9_Tumor	n.d.	n.d.	n.d.	n.d.	36.44	36.48	36.65	36.67
E10_Normal tissue	37.24	37.02	37.28	36.53	n.d.	n.d.	n.d.	n.d.
E10_Tumor	n.d.	n.d.	n.d.	n.d.	30.89	31.01	30.49	30.64
E11_Normal tissue	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
E11_Tumor	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
E12_Normal tissue	n.d.	n.d.	n.d.	n.d.	37.37	38.49	38.59	39.7
E12_Tumor	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
E13_Normal tissue	n.d.	n.d.	n.d.	n.d.	37.88	37.13	36.05	36.4
E13_Tumor	36.14	36.63	36.61	36.35	34.75	35.68	34.79	34.77
E14_Normal tissue	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
E14_Tumor	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
E15_Normal tissue	n.d.	n.d.	n.d.	n.d.	34.96	35.08	35.29	34.87
E15_Tumor	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
E16_Normal tissue	n.d.	n.d.	n.d.	n.d.	35.78	35.04	35.22	35.79
E16_Tumor	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
E17_Normal tissue	n.d.	n.d.	n.d.	n.d.	37.03	36.28	37.78	38.29
E17_Tumor	n.d.	n.d.	n.d.	n.d.	34.43	35.34	34.6	34.29
E18_Normal tissue	n.d.	n.d.	n.d.	n.d.	34.43	34.24	34.7	34.58
E18_Tumor	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
E19_Normal tissue	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
E19_Tumor	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.

n.d. – The mRNA of the gene is not detected.

Table A1 (continued).

Sample designation	PCSK4_1	PCSK4_2	PCSK4_3	PCSK4_4	PCSK5_1	PCSK5_2	PCSK5_3	PCSK5_4
E1_Normal tissue	n.d.	n.d.	n.d.	n.d.	35.45	35.57	35.45	35.6
E1_Tumor	n.d.	n.d.	n.d.	n.d.	36.87	37.34	37.04	36.89
E2_Normal tissue	n.d.	n.d.	n.d.	n.d.	36.67	37.09	37.44	37.32
E2_Tumor	n.d.	n.d.	n.d.	n.d.	39.32	39.16	38.7	39.9
E3_Normal tissue	n.d.	n.d.	n.d.	n.d.	34.17	33.79	33.08	34.41
E3_Tumor	n.d.	38.56	n.d.	n.d.	31.58	31.98	32.02	31.79
E4_Normal tissue	n.d.	n.d.	n.d.	n.d.	37.08	39.55	38.57	37.81
E4_Tumor	n.d.	n.d.	n.d.	n.d.	31.84	31.47	31.7	32.03
E5_Normal tissue	n.d.	n.d.	n.d.	n.d.	32.38	32.46	32.18	32.25
E5_Tumor	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
E6_Normal tissue	39.05	n.d.	n.d.	n.d.	34.15	34.13	34.85	34.24
E6_Tumor	n.d.	n.d.	n.d.	n.d.	35.08	35.85	36.31	37.47
E7_Normal tissue	n.d.	n.d.	n.d.	n.d.	34.99	34.69	34.76	34.33
E7_Tumor	n.d.	n.d.	n.d.	n.d.	35.09	35.96	35.4	34.57
E8_Normal tissue	n.d.	n.d.	n.d.	n.d.	35.85	36.55	37.12	37.43
E8_Tumor	n.d.	n.d.	n.d.	n.d.	33.93	33.67	33.68	33.89
E9_Normal tissue	n.d.	n.d.	n.d.	n.d.	35.94	35.88	35.47	35.56
E9_Tumor	n.d.	n.d.	n.d.	n.d.	36.17	35.18	36.03	36.06
E10_Normal tissue	n.d.	n.d.	n.d.	n.d.	32.1	31.79	32.41	32.19
E10_Tumor	n.d.	n.d.	n.d.	n.d.	30.16	29.98	30.14	30.13
E11_Normal tissue	n.d.	n.d.	n.d.	n.d.	31.67	31.8	31.73	31.68
E11_Tumor	n.d.	n.d.	n.d.	n.d.	32.4	32.67	32.49	32.47
E12_Normal tissue	n.d.	n.d.	n.d.	n.d.	34.98	35.54	35.01	34.57
E12_Tumor	n.d.	n.d.	n.d.	n.d.	32.77	32.98	32.78	32.67
E13_Normal tissue	n.d.	n.d.	n.d.	n.d.	34.09	34.02	33.69	34.07
E13_Tumor	n.d.	n.d.	n.d.	n.d.	32.63	32.98	32.79	33.3
E14_Normal tissue	n.d.	n.d.	n.d.	n.d.	34.94	34.51	35.21	35.25
E14_Tumor	n.d.	39.57	n.d.	n.d.	34.8	34	34.21	34.63
E15_Normal tissue	n.d.	n.d.	n.d.	n.d.	34.65	34.49	35.2	34.56
E15_Tumor	n.d.	n.d.	n.d.	39.27	33.2	33.27	32.84	32.45
E16_Normal tissue	n.d.	n.d.	n.d.	38.64	31.69	31.54	31.69	31.58
E16_Tumor	n.d.	n.d.	n.d.	n.d.	31.22	30.9	31.14	31.04
E17_Normal tissue	n.d.	n.d.	n.d.	n.d.	33.67	33.32	34.17	33.29
E17_Tumor	n.d.	n.d.	n.d.	n.d.	34.64	34.23	34.35	34.69
E18_Normal tissue	n.d.	n.d.	n.d.	n.d.	31.12	30.92	30.9	30.8
E18_Tumor	n.d.	n.d.	n.d.	n.d.	31.81	31.82	31.86	31.87
E19_Normal tissue	n.d.	n.d.	n.d.	n.d.	36.66	36.31	36.26	36.77
E19_Tumor	37.4	38.63	38.05	37.48	37.64	38.5	38.21	37.43

n.d. – The mRNA of the gene is not detected.

Table A1 (continued).

Sample designation	PCSK6_1	PCSK6_2	PCSK6_3	PCSK6_4	PCSK7_1	PCSK7_2	PCSK7_3	PCSK7_4
E1_Normal tissue	37.12	37.29	36.87	37.21	34.41	34.25	34.46	34.34
E1_Tumor	38.08	38.52	38.36	37.26	34.93	35.64	35.81	36.48
E2_Normal tissue	38.72	39.64	38.7	38.06	37.24	36.21	36.35	35.95
E2_Tumor	38.96	39.26	39.15	39.32	35.96	35.8	35.43	35.62
E3_Normal tissue	34.87	35.09	35.08	34.51	33.33	33.21	33.04	33.12
E3_Tumor	30.74	30.75	30.57	30.77	30.2	30.03	30.09	30
E4_Normal tissue	34.29	34.2	34.92	35.76	32.38	32.7	32.89	32.91
E4_Tumor	31.09	31.07	31	31.06	31.18	31.1	31.25	31.13
E5_Normal tissue	32.67	32.49	32.54	32.19	32.74	32.53	32.84	32.9
E5_Tumor	33.11	33.08	33.07	33.22	33.36	33.58	33.2	33.4
E6_Normal tissue	n.d.	n.d.	n.d.	n.d.	35.35	35.12	34.88	35.61
E6_Tumor	36.82	37.26	37.3	36.1	34.66	34.51	34.46	34.4
E7_Normal tissue	n.d.	n.d.	n.d.	n.d.	35.57	36.4	36.08	36.58
E7_Tumor	35.36	36.19	37.26	36.74	34.15	34.2	34.38	33.85
E8_Normal tissue	n.d.	n.d.	n.d.	n.d.	37.74	37.28	37.98	37.55
E8_Tumor	34.74	35.44	35.04	34.38	33.54	33.63	33.69	33.29
E9_Normal tissue	34.5	34.71	35.69	35.41	37.88	36.43	36.75	37.27
E9_Tumor	35.01	35.18	34.7	35.96	37.48	36.19	36.26	36.65
E10_Normal tissue	33.62	33.39	33.55	33.23	31.94	31.72	31.71	31.89
E10_Tumor	31.21	31.04	31	31.05	30.2	30.18	30.05	30.16
E11_Normal tissue	33.96	33.84	34.33	34.15	32.81	33.03	33.06	32.84
E11_Tumor	33.18	33.06	33.2	32.79	31.76	31.62	31.47	31.54
E12_Normal tissue	37.4	37.09	38.11	37.32	34.7	34.73	34.45	34.43
E12_Tumor	33.68	33.48	33.71	33.67	32.21	32.15	32.04	32.06
E13_Normal tissue	33.76	33.9	34.31	33.47	33.17	33.55	33.29	33.26
E13_Tumor	31.83	32.15	32.07	32.22	31.37	31.2	31.19	31.09
E14_Normal tissue	37.32	36.22	38.39	38.21	34.89	34.41	34.34	34.49
E14_Tumor	34.87	35.18	35.58	34.79	33.52	33.55	33.67	33.39
E15_Normal tissue	36.05	35.98	35.12	37.13	34.62	35.11	35.07	34.75
E15_Tumor	32.69	32.57	32.62	32.4	33.95	33.75	33.91	33.61
E16_Normal tissue	36.2	35.72	35.39	35.57	32.53	32.58	32.39	32.4
E16_Tumor	31.61	31.45	31.59	31.54	31.21	31.09	31.16	31.22
E17_Normal tissue	34.64	34.28	34.5	34.21	33.5	33.35	33.57	33.39
E17_Tumor	32.14	32.38	32.04	32.33	30.92	30.83	31.02	30.95
E18_Normal tissue	31.47	31.39	31.48	31.37	29.79	30.08	30	30.05
E18_Tumor	32.25	32.46	32.21	32.68	30.24	30.21	30.29	30.27
E19_Normal tissue	n.d.	n.d.	38.9	n.d.	35.56	34.83	35.18	35.15
E19_Tumor	39.29	37.99	38.12	38.84	34.65	34.61	35.2	34.85

n.d. – The mRNA of the gene is not detected.

Table A1 (continued).

Sample designation	PCSK9_1	PCSK9_2	PCSK9_3	PCSK9_4	MBTPS1_1	MBTPS1_2	MBTPS1_3	MBTPS1_4
E1_Normal tissue	n.d.	n.d.	n.d.	n.d.	33.81	33.43	33.85	33.79
E1_Tumor	n.d.	n.d.	n.d.	n.d.	33.42	33.54	33.6	33.46
E2_Normal tissue	39.22	38.67	n.d.	n.d.	34.23	33.84	34.08	33.83
E2_Tumor	n.d.	n.d.	n.d.	n.d.	33.08	33.24	33.18	33.01
E3_Normal tissue	n.d.	n.d.	n.d.	n.d.	30.85	30.68	30.92	30.95
E3_Tumor	41.9	37.3	38.28	41.24	28.05	28.14	28.28	28.25
E4_Normal tissue	39.13	n.d.	n.d.	n.d.	30.07	30.13	30.11	30.24
E4_Tumor	37	39.23	n.d.	n.d.	27.98	28	28.13	28.17
E5_Normal tissue	n.d.	n.d.	n.d.	n.d.	31.19	31	31.09	31.16
E5_Tumor	n.d.	n.d.	n.d.	n.d.	31.41	31.33	31.47	31.54
E6_Normal tissue	n.d.	n.d.	n.d.	n.d.	34.17	34.26	34.09	34.19
E6_Tumor	n.d.	n.d.	n.d.	n.d.	31.31	31.27	31.35	31.3
E7_Normal tissue	37.33	38.01	37.22	37.44	33.75	33.51	33.34	33.41
E7_Tumor	37.74	37.16	36.52	36.44	32.12	32.39	32.14	32.38
E8_Normal tissue	n.d.	n.d.	n.d.	39.75	35.65	36.05	36.24	36.15
E8_Tumor	34.88	34.6	34.83	35.33	31.98	31.99	32.23	31.85
E9_Normal tissue	34.58	34.04	34.15	34.19	33.13	32.89	33.07	32.95
E9_Tumor	32.1	32.5	32.52	32.31	31.45	31.43	31.56	31.47
E10_Normal tissue	36.14	36.3	36.5	36.2	29.86	29.88	29.77	29.85
E10_Tumor	33.79	34.6	33.77	34.38	27.41	27.49	27.43	27.38
E11_Normal tissue	n.d.	39.03	n.d.	n.d.	30.46	30.3	30.5	30.46
E11_Tumor	32.15	32.07	32.21	32.02	29.06	29.01	28.96	28.91
E12_Normal tissue	n.d.	n.d.	n.d.	n.d.	31.48	31.42	31.26	31.45
E12_Tumor	34.09	34.15	34.34	34.14	29.27	29.28	29.18	29.21
E13_Normal tissue	n.d.	n.d.	n.d.	n.d.	32.01	32.2	32.28	32.23
E13_Tumor	32.46	32.54	32.65	32.8	29.5	29.57	29.64	29.67
E14_Normal tissue	n.d.	n.d.	n.d.	n.d.	31.63	31.6	31.78	31.75
E14_Tumor	35.59	35.95	35.49	35.6	31.21	31.14	31.47	31.37
E15_Normal tissue	n.d.	n.d.	n.d.	n.d.	33.37	33.22	33.24	33.52
E15_Tumor	33.1	32.83	33.37	33.18	31.37	31.28	31.32	31.43
E16_Normal tissue	n.d.	n.d.	n.d.	n.d.	29.59	29.72	29.6	29.62
E16_Tumor	33.1	33.19	33.21	32.93	28.76	28.78	28.73	28.71
E17_Normal tissue	n.d.	n.d.	n.d.	n.d.	31.59	31.43	31.71	31.5
E17_Tumor	32.43	32.15	32.44	32.4	28.75	28.76	28.87	28.84
E18_Normal tissue	n.d.	n.d.	n.d.	n.d.	29.2	29.26	29.3	29.19
E18_Tumor	31.98	31.8	32.19	32.04	28.16	28.19	28.23	28.17
E19_Normal tissue	n.d.	n.d.	n.d.	n.d.	32.58	32.62	32.86	32.9
E19_Tumor	37.31	37.62	37.92	37.39	32.64	32.56	32.6	32.72

n.d. – The mRNA of the gene is not detected.

Table A1 (end).

Sample designation	FURIN_1	FURIN_2	FURIN_3	FURIN_4	GAPDH_1	GAPDH_2	GAPDH_3	GAPDH_4
E1_Normal tissue	34.61	35.26	35.2	35.17	26.59	26.53	26.57	26.56
E1_Tumor	33.73	33.83	34.26	34.5	26.68	26.6	26.77	26.77
E2_Normal tissue	36.41	35.29	36.08	35.55	25.44	25.44	25.37	25.4
E2_Tumor	34.58	34.32	34.95	33.85	25.36	25.31	25.28	25.24
E3_Normal tissue	32.41	32.23	32.53	32.69	24.98	24.9	25.26	25.21
E3_Tumor	28.31	28.29	28.35	28.29	21.51	21.49	21.7	21.77
E4_Normal tissue	30.03	30.05	30.09	30.1	22.81	22.75	22.97	23.05
E4_Tumor	28.3	28.27	28.53	28.56	21.2	21.03	21.36	21.38
E5_Normal tissue	32.52	32.93	33.14	32.99	24.95	24.92	25.16	25.13
E5_Tumor	30.9	30.73	30.78	30.75	24.53	24.6	24.99	24.86
E6_Normal tissue	36.28	36.21	36.73	35.89	27.39	27.28	27.27	27.47
E6_Tumor	33.76	33.44	33.43	33.63	25.43	25.43	25.42	25.47
E7_Normal tissue	34.58	33.9	34.42	35.05	24.82	24.75	24.87	24.84
E7_Tumor	32.16	31.89	31.89	31.4	24.93	24.81	25.01	24.76
E8_Normal tissue	34.34	34.35	35.1	34.51	26.39	26.4	27.09	27.11
E8_Tumor	31.02	31.09	31.08	31.03	24.81	24.76	25.02	24.86
E9_Normal tissue	36.4	36.09	35.75	35.54	26.86	26.74	26.76	26.89
E9_Tumor	32.38	32.97	32.67	32.71	26.93	26.91	27.04	27.03
E10_Normal tissue	29.67	29.52	29.43	29.59	21.9	21.84	21.9	21.95
E10_Tumor	28.02	28.08	28.04	28.05	22.68	22.68	22.83	22.69
E11_Normal tissue	31.12	31.2	31.41	31.11	22.02	21.98	21.76	21.82
E11_Tumor	28.93	29.05	29	28.9	22.72	22.77	22.77	22.67
E12_Normal tissue	33.8	33.85	33.66	33.77	23.88	23.78	23.81	23.73
E12_Tumor	30.81	30.66	30.53	30.54	22.31	22.34	22.22	22.2
E13_Normal tissue	32.69	32.56	32.57	32.95	24.78	24.72	24.78	24.86
E13_Tumor	29.37	29.51	29.54	29.52	22.47	22.41	22.48	22.47
E14_Normal tissue	32.26	32.52	32.62	32.42	23.1	23.07	23.02	23.13
E14_Tumor	31.51	31.59	31.26	31.4	24.51	24.49	24.58	24.5
E15_Normal tissue	32.59	32.72	32.47	32.29	25.01	24.95	24.97	24.93
E15_Tumor	30.69	30.59	30.71	30.55	25.13	25.08	25.19	25.07
E16_Normal tissue	30.37	30.49	30.39	30.34	21.65	21.56	21.44	21.55
E16_Tumor	28.26	28.22	28.27	28.09	22.18	22.15	22.16	22.12
E17_Normal tissue	33.14	33.01	33.02	33.39	22.52	22.48	22.49	22.6
E17_Tumor	29.53	29.46	29.49	29.33	21.65	21.65	21.74	21.67
E18_Normal tissue	28.41	28.55	28.54	28.56	21.58	21.66	21.61	21.62
E18_Tumor	28.77	28.67	28.92	28.87	20.33	20.3	20.32	20.22
E19_Normal tissue	33.41	33.18	33.5	33.45	26.57	26.55	26.61	26.53
E19_Tumor	34.57	34.81	35.05	34.91	26.74	26.63	26.68	26.63

n.d. – The mRNA of the gene is not detected.