



*Supplementary materials*

**Table S1.** Gene symbols of 10 genes with the largest change expression for RA in 7th day of culture. Fold change in expression ratio, and corrected *p*-values of studied genes.

## 7D/0H

Gene symbol	Gene name	Ratio	Adj. p.val
SFRP2	secreted frizzled-related protein 2	91.25	<0.05
PRRX1	paired related homeobox 1	73.53	<0.05
DDAH1	dimethylarginine dimethylaminohydrolase 1	43.57	<0.05
ACTA2	actin, alpha 2	28.73	<0.05
CCL2	chemokine (C-C motif) ligand 2	25.94	<0.05
TNNC1	troponin C type 1	−147.83	<0.05
MYH7	myosin, heavy chain 7	−148.79	<0.05
NEBL	nebulette	−151.20	<0.05
MYL3	myosin, light chain 3	−194.43	<0.05
ACTC1	actin, alpha 1	−393.86	<0.05

**Table S2.** Gene symbols of 10 genes with the largest change expression for RA in 15th day of culture. Fold change in expression ratio, and corrected *p*-values of studied genes.

## 15D/0H

Gene symbol	Gene name	Ratio	Adj. p.val
PRRX1	paired related homeobox 1	58.05	<0.05
SFRP2	secreted frizzled-related protein 2	45.92	<0.05
CCL2	chemokine (C-C motif) ligand 2	45.80	<0.05
DDAH1	dimethylarginine dimethylaminohydrolase 1	37.06	<0.05
IL6	interleukin 6	34.39	<0.05
ACTN2	actinin, alpha 2	−129.43	<0.05
NEBL	nebulette	−141.50	<0.05
MYH7	myosin, heavy chain 7	−178.28	<0.05
MYL3	myosin, light chain 3	−206.79	<0.05
ACTC1	actin, alpha 1	−422.99	<0.05

**Table S3.** Gene symbols of 10 genes with the largest change expression for RA in 30th day of culture. Fold change in expression ratio, and corrected *p*-values of studied genes.**30D/0H**

Gene symbol	Gene name	Ratio	Adj. p.val
PRRX1	paired related homeobox 1	55.31	<0.05
CCL2	chemokine (C–C motif) ligand 2	49.71	<0.05
IL6	interleukin 6	48.55	<0.05
SFRP2	secreted frizzled–related protein 2	32.02	<0.05
ROBO1	roundabout, axon guidance receptor, homolog 1	26.25	<0.05
NEBL	nebulette	–124.15	<0.05
TNNC1	troponin C type 1	–145.36	<0.05
MYH7	myosin, heavy chain 7	–161.04	<0.05
MYL3	myosin, light chain 3	–219.07	<0.05
ACTC1	actin, alpha 1	–434.00	<0.05

**Table S4.** Gene symbols of 10 genes with the largest change expression for RAA in 7th day of culture. Fold change in expression ratio, and corrected *p*-values of studied genes.**7D/0H**

Gene symbol	Gene name	Ratio	Adj. p.val
SFRP2	secreted frizzled–related protein 2	61.20	<0.05
DDAH1	dimethylarginine dimethylaminohydrolase 1	33.90	<0.05
LOX	lysyl oxidase	29.19	<0.05
FLRT3	fibronectin leucine rich transmembrane protein 3	28.99	<0.05
PRRX1	paired related homeobox 1	24.28	<0.05
MYL3	myosin, light chain 3	–210.94	<0.05
TNNC1	troponin C type 1	–211.77	<0.05
NPPA	natriuretic peptide A	–222.81	<0.05
MYH7	myosin, heavy chain 7	–256.41	<0.05
ACTC1	actin, alpha 1	–490.06	<0.05

**Table S5.** Gene symbols of 10 genes with the largest change expression for RAA in 15th day of culture. Fold change in expression ratio, and corrected *p*-values of studied genes.**15D/0H**

Gene symbol	Gene name	Ratio	Adj. p.val
SFRP2	secreted frizzled-related protein 2	114.50	<0.05
DDAH1	dimethylarginine dimethylaminohydrolase 1	52.44	<0.05
LOX	lysyl oxidase	47.26	<0.05
PRRX1	paired related homeobox 1	33.32	<0.05
ROBO1	roundabout, axon guidance receptor, homolog 1	32.19	<0.05
NPPA	natriuretic peptide A	−196.25	<0.05
MYH7	myosin, heavy chain 7	−205.85	<0.05
BMP10	bone morphogenetic protein 10	−207.29	<0.05
MYL3	myosin, light chain 3	−209.39	<0.05
ACTC1	actin, alpha 1	−510.00	<0.05

**Table S6.** Gene symbols of 10 genes with the largest change expression for RAA in 30th day of culture. Fold change in expression ratio, and corrected *p*-values of studied genes.**30D/0H**

Gene symbol	Gene name	Ratio	Adj. p.val
SFRP2	secreted frizzled-related protein 2	110.94	<0.05
LOX	lysyl oxidase	59.40	<0.05
DDAH1	dimethylarginine dimethylaminohydrolase 1	50.35	<0.05
IL6	interleukin 6	41.71	<0.05
PRRX1	paired related homeobox 1	34.21	<0.05
NPPA	natriuretic peptide A	−180.49	<0.05
BMP10	bone morphogenetic protein 10	−182.54	<0.05
MYH7	myosin, heavy chain 7	−223.37	<0.05
MYL3	myosin, light chain 3	−231.93	<0.05
ACTC1	actin, alpha 1	−423.15	<0.05