

**Additional File 7.** Up-regulated genes in cells exposed to Hydrogel for 48h. Fold-change is logarithmic ratio ( $\log_2$  ratio) to expression level in control.

<b>GeneName</b>	<b>Description</b>	<b>Fold-change (<math>\log_2</math> ratio)</b>
RGSL1	Homo sapiens mRNA; cDNA DKFZp434E169 (from clone DKFZp434E169). [AL136902]	<b>6.644</b>
PRKAG3	Homo sapiens protein kinase, AMP-activated, gamma 3 non-catalytic subunit (PRKAG3), mRNA [NM_017431]	<b>5.376</b>
GDF2	Homo sapiens growth differentiation factor 2 (GDF2), mRNA [NM_016204]	<b>5.177</b>
ANKRD31	Ankyrin repeat domain-containing protein 31 [Source:UniProtKB/Swiss-Prot;Acc:Q8N7Z5] [ENST00000274361]	<b>4.491</b>
POF1B	Homo sapiens premature ovarian failure, 1B (POF1B), mRNA [NM_024921]	<b>3.773</b>
TMPRSS9	Homo sapiens cDNA FLJ16193 fis, clone BRTHA2018011, weakly similar to Epithin (EC 3.4.21.-). [AK131261]	<b>3.328</b>
LOC646976	Homo sapiens cDNA FLJ38763 fis, clone KIDNE2014119. [AK096082]	<b>3.100</b>
GAGE3	Human GAGE-3 protein mRNA, complete cds. [U19144]	<b>2.719</b>
ADAMTS9	Homo sapiens ADAM metalloproteinase with thrombospondin type 1 motif, 9 (ADAMTS9), mRNA [NM_182920]	<b>2.701</b>
SPATA18	Homo sapiens spermatogenesis associated 18 homolog (rat) (SPATA18), mRNA [NM_145263]	<b>2.476</b>
SPEF1	Homo sapiens sperm flagellar 1 (SPEF1), mRNA [NM_015417]	<b>2.331</b>
TCF15	Homo sapiens transcription factor 15 (basic helix-loop-helix) (TCF15), mRNA [NM_004609]	<b>1.941</b>
C9orf33	Homo sapiens HSFE-1 mRNA, partial cds. [AF072164]	<b>1.676</b>
C15orf21	Homo sapiens chromosome 15 open reading frame 21 (C15orf21), non-coding RNA [NR_022014]	<b>1.582</b>
C4B	Homo sapiens complement component 4B (Chido blood group) (C4B), mRNA [NM_001002029]	<b>1.533</b>
VCX3A	Homo sapiens variable charge, X-linked 3A (VCX3A), mRNA [NM_016379]	<b>1.476</b>
MPL	Homo sapiens myeloproliferative leukemia virus oncogene (MPL), mRNA [NM_005373]	<b>1.437</b>
P2RY6	Homo sapiens pyrimidinergic receptor P2Y, G-protein coupled, 6 (P2RY6), mRNA [NM_176798]	<b>1.406</b>
ZNF619	Homo sapiens zinc finger protein 619 (ZNF619), mRNA [NM_173656]	<b>1.372</b>
VCX	Homo sapiens variable charge, X-linked (VCX), mRNA [NM_013452]	<b>1.343</b>
VCX2	Homo sapiens variable charge, X-linked 2 (VCX2), mRNA [NM_016378]	<b>1.335</b>
BASP1	Homo sapiens brain abundant, membrane attached signal protein 1 (BASP1), mRNA [NM_006317]	<b>1.287</b>
CLEC4A	Homo sapiens C-type lectin domain family 4, member A (CLEC4A), mRNA [NM_016184]	<b>1.279</b>
FOSB	Homo sapiens FBJ murine osteosarcoma viral oncogene homolog B (FOSB), mRNA [NM_006732]	<b>1.272</b>
CYP1A1	Homo sapiens cytochrome P450, family 1, subfamily A, polypeptide 1 (CYP1A1), mRNA [NM_000499]	<b>1.271</b>
CRAT	Homo sapiens carnitine acetyltransferase (CRAT), mRNA [NM_000755]	<b>1.270</b>
RPS16	Homo sapiens ribosomal protein S16 (RPS16), mRNA [NM_001020]	<b>1.269</b>

LOC100132673	Homo sapiens misc_RNA (LOC100132673), miscRNA [XR_039018]	<b>1.236</b>
FBLN2	Homo sapiens fibulin 2 (FBLN2), mRNA [NM_001004019]	<b>1.228</b>
GNB2L1	Homo sapiens guanine nucleotide binding protein (G protein), beta polypeptide 2-like 1 (GNB2L1), mRNA [NM_006098]	<b>1.227</b>
HOXA3	Homo sapiens homeobox A3 (HOXA3), mRNA [NM_153631]	<b>1.219</b>
DNAL4	Homo sapiens dynein, axonemal, light chain 4 (DNAL4), mRNA [NM_005740]	<b>1.216</b>
STRA6	Homo sapiens stimulated by retinoic acid gene 6 homolog (mouse) (STRA6), mRNA [NM_022369]	<b>1.210</b>
CYP11B1	Homo sapiens cytochrome P450, family 11, subfamily B, polypeptide 1 (CYP11B1), mRNA [NM_000497]	<b>1.205</b>
CASP1	Homo sapiens caspase 1, apoptosis-related cysteine peptidase (interleukin 1, beta, convertase) (CASP1), mRNA [NM_033292]	<b>1.199</b>
FIBIN	Homo sapiens fin bud initiation factor homolog (zebrafish) (FIBIN), mRNA [NM_203371]	<b>1.195</b>
IFIH1	Homo sapiens interferon induced with helicase C domain 1 (IFIH1), mRNA [NM_022168]	<b>1.194</b>
SUSD4	Homo sapiens sushi domain containing 4 (SUSD4), mRNA [NM_017982]	<b>1.183</b>
ST6GALNAC1	Homo sapiens ST6 (alpha-N-acetylneuraminyl-2,3-beta-galactosyl-1,3)-N-acetylgalactosaminide alpha-2,6-sialyltransferase 1 (ST6GALNAC1), mRNA [NM_018414]	<b>1.179</b>
NEFM	Homo sapiens neurofilament 3 (150kDa medium), mRNA (cDNA clone IMAGE:3163440), partial cds. [BC002421]	<b>1.169</b>
RHOB	Homo sapiens ras homolog gene family, member B (RHOB), mRNA [NM_004040]	<b>1.162</b>
ANPEP	Homo sapiens alanyl (membrane) aminopeptidase (ANPEP), mRNA [NM_001150]	<b>1.161</b>
ABCG2	Homo sapiens ATP-binding cassette, sub-family G (WHITE), member 2 (ABCG2), mRNA [NM_004827]	<b>1.159</b>
ADC	Homo sapiens arginine decarboxylase (ADC), mRNA [NM_052998]	<b>1.146</b>
DNAH11	Homo sapiens dynein, axonemal, heavy chain 11 (DNAH11), mRNA [NM_003777]	<b>1.144</b>
C16orf3	Homo sapiens chromosome 16 open reading frame 3 (C16orf3), mRNA [NM_001214]	<b>1.143</b>
MAFA	Homo sapiens v-maf musculoaponeurotic fibrosarcoma oncogene homolog A (avian) (MAFA), mRNA [NM_201589]	<b>1.142</b>
POLL	Homo sapiens polymerase (DNA directed), lambda (POLL), mRNA [NM_013274]	<b>1.142</b>
YPEL1	Homo sapiens yippee-like 1 (Drosophila) (YPEL1), mRNA [NM_013313]	<b>1.140</b>
RPL41	Homo sapiens ribosomal protein L41 (RPL41), mRNA [NM_001035267]	<b>1.119</b>
NYX	Homo sapiens nyctalopin (NYX), mRNA [NM_022567]	<b>1.118</b>
RPLP0	Homo sapiens ribosomal protein, large, P0 (RPLP0), mRNA [NM_053275]	<b>1.118</b>
ISLR	Homo sapiens immunoglobulin superfamily containing leucine-rich repeat (ISLR), mRNA [NM_005545]	<b>1.115</b>
RPL18A	Homo sapiens ribosomal protein L18a (RPL18A), mRNA [NM_000980]	<b>1.109</b>
DUSP27	Homo sapiens dual specificity phosphatase 27 (putative) (DUSP27), mRNA [NM_001080426]	<b>1.103</b>
RCOR2	Homo sapiens REST corepressor 2 (RCOR2), mRNA [NM_173587]	<b>1.102</b>
FGL1	Homo sapiens fibrinogen-like 1 (FGL1), mRNA [NM_201553]	<b>1.099</b>
HLA-DMA	Homo sapiens major histocompatibility complex, class II, DM alpha (HLA-DMA), mRNA [NM_006120]	<b>1.097</b>
SOS1	Homo sapiens son of sevenless homolog 1 (Drosophila) (SOS1), mRNA [NM_005633]	<b>1.092</b>

LOC731275	Homo sapiens hypothetical LOC731275 (LOC731275), mRNA [XM_001726998]	<b>1.091</b>
TNKS1BP1	Homo sapiens tankyrase 1 binding protein 1, 182kDa (TNKS1BP1), mRNA [NM_033396]	<b>1.089</b>
RIMS1	Homo sapiens regulating synaptic membrane exocytosis 1 (RIMS1), mRNA [NM_014989]	<b>1.088</b>
NKAIN4	Homo sapiens Na <sup>+</sup> /K <sup>+</sup> transporting ATPase interacting 4 (NKAIN4), mRNA [NM_152864]	<b>1.086</b>
RRAD	Homo sapiens Ras-related associated with diabetes (RRAD), mRNA [NM_004165]	<b>1.086</b>
FHL3	Homo sapiens four and a half LIM domains 3 (FHL3), mRNA [NM_004468]	<b>1.082</b>
C11orf42	Homo sapiens chromosome 11 open reading frame 42 (C11orf42), mRNA [NM_173525]	<b>1.080</b>
ARSD	Homo sapiens arylsulfatase D (ARSD), mRNA [NM_009589]	<b>1.075</b>
NPB	Homo sapiens cDNA clone IMAGE:5019903, partial cds. [BC073815]	<b>1.073</b>
TMCC3	Homo sapiens transmembrane and coiled-coil domain family 3 (TMCC3), mRNA [NM_020698]	<b>1.068</b>
AGTRAP	Homo sapiens angiotensin II receptor-associated protein (AGTRAP), mRNA [NM_001040196]	<b>1.065</b>
SLC12A7	Homo sapiens solute carrier family 12 (potassium/chloride transporters), member 7 (SLC12A7), mRNA [NM_006598]	<b>1.058</b>
CAPNS1	Homo sapiens calpain, small subunit 1 (CAPNS1), mRNA [NM_001749]	<b>1.055</b>
GGT8P	Homo sapiens gamma-glutamyltransferase 8 pseudogene (GGT8P), non-coding RNA [NR_003503]	<b>1.050</b>
SRP14	Homo sapiens signal recognition particle 14kDa (homologous Alu RNA binding protein) (SRP14), mRNA [NM_003134]	<b>1.050</b>
AMDHD1	Homo sapiens amidohydrolase domain containing 1 (AMDHD1), mRNA [NM_152435]	<b>1.047</b>
LOC645427	Homo sapiens cDNA FLJ37088 fis, clone BRACE2017124. [AK094407]	<b>1.047</b>
C9orf131	Homo sapiens chromosome 9 open reading frame 131 (C9orf131), mRNA [NM_203299]	<b>1.046</b>
GAPDH	Homo sapiens glyceraldehyde-3-phosphate dehydrogenase (GAPDH), mRNA [NM_002046]	<b>1.046</b>
LOC441377	PREDICTED: Homo sapiens similar to ribosomal protein S26 (LOC441377), mRNA [XM_496991]	<b>1.041</b>
CRCT1	Homo sapiens cysteine-rich C-terminal 1 (CRCT1), mRNA [NM_019060]	<b>1.040</b>
KIAA1486	Homo sapiens KIAA1486 protein (KIAA1486), mRNA [NM_020864]	<b>1.039</b>
ASF1B	Homo sapiens ASF1 anti-silencing function 1 homolog B (S. cerevisiae) (ASF1B), mRNA [NM_018154]	<b>1.029</b>
CTSS	Homo sapiens cathepsin S (CTSS), mRNA [NM_004079]	<b>1.026</b>
FCHO1	Homo sapiens FCH domain only 1 (FCHO1), mRNA [NM_015122]	<b>1.026</b>
ORM1	Homo sapiens orosomucoid 1 (ORM1), mRNA [NM_000607]	<b>1.026</b>
ACAP3	Homo sapiens ArfGAP with coiled-coil, ankyrin repeat and PH domains 3 (ACAP3), mRNA [NM_030649]	<b>1.023</b>
TLE2	Homo sapiens transducin-like enhancer of split 2 (E(sp1) homolog, Drosophila) (TLE2), mRNA [NM_003260]	<b>1.022</b>
TAP2	Homo sapiens transporter 2, ATP-binding cassette, sub-family B (MDR/TAP) (TAP2), mRNA [NM_000544]	<b>1.019</b>
MGC16075	Homo sapiens hypothetical protein MGC16075, mRNA (cDNA clone MGC:16075 IMAGE:3616854), complete cds. [BC007354]	<b>1.010</b>
C1S	Homo sapiens complement component 1, s subcomponent (C1S), mRNA [NM_001734]	<b>1.008</b>
AKAP7	Homo sapiens A kinase (PRKA) anchor protein 7 (AKAP7), mRNA [NM_016377]	<b>1.007</b>

LCE1D	Homo sapiens late cornified envelope 1D (LCE1D), mRNA [NM_178352]	<b>1.006</b>
SCGB3A2	Homo sapiens secretoglobin, family 3A, member 2 (SCGB3A2), mRNA [NM_054023]	<b>1.006</b>
CABP7	Homo sapiens calcium binding protein 7 (CABP7), mRNA [NM_182527]	<b>1.005</b>
LOC100128364	Homo sapiens cDNA FLJ38910 fis, clone NT2NE2006813, weakly similar to Cell Surface GlycoproteinL1 Precursor. [AK096229]	<b>1.004</b>
MGC16142	Homo sapiens hypothetical protein MGC16142, mRNA (cDNA clone IMAGE:3630861), partial cds. [BC007365]	<b>1.004</b>
LRSAM1	Homo sapiens leucine rich repeat and sterile alpha motif containing 1 (LRSAM1), mRNA [NM_138361]	<b>1.000</b>
LY6G5C	Homo sapiens lymphocyte antigen 6 complex, locus G5C (LY6G5C), mRNA [NM_025262]	<b>1.000</b>
MARCO	Homo sapiens macrophage receptor with collagenous structure (MARCO), mRNA [NM_006770]	<b>1.000</b>