

Supplemental Table 1: Genes that were commonly regulated by HPTE in FSH- and cAMP-treated granulosa cells.

Gene Title	Gene Symbol	Annotationⁱ	Entrez
activating transcription factor 5	Atf5	Anti-apoptosis; regulation of transcription from RNA polymerase II promoter; regulation of cell cycle and regulation of cell proliferation.	282840
amplified in osteosarcoma	Os9	Protein binding.	362891
angiopoietin-like 4	Angptl4	Signal transduction; multicellular organismal development; negative regulation of lipoprotein lipase.	362850
ankyrin 2, neuronal	Ank2	Paranodal junction assembly; nervous system development; response to methylmercury; lipid raft; plasma membrane; synaptosome; cytoskeleton; structural constituent of cytoskeleton.	362036
beta galactoside alpha 2,6 sialyltransferase 2	St6gal2	Carbohydrate metabolic process; protein amino acid glycosylation; oligosaccharide metabolic process membrane; integral to Golgi membrane; Golgi apparatus.	301155
C1q and tumor necrosis factor related protein 5	C1qtnf5	Phosphate transport; extracellular region; cytoplasm.	315598
carbohydrate (chondroitin synthase 1 (predicted)	Chsy1_predicted		292999
Ceruloplasmin	Cp	Plasma membrane copper ion transport; response to nutrient; aging; cellular iron ion homeostasis; anchored to plasma membrane.	24268
connective tissue growth factor	Ctgf	cartilage condensation; cell differentiation; angiogenesis; angiogenesis; regulation of cell growth; fibroblast growth factor receptor signaling pathway.	64032
cystatin B	Cstb	Adult locomotory behavior; regulation of apoptosis; cysteine protease inhibitor activity.	25308
D-dopachrome tautomerase	Ddt	Melanin biosynthetic process from tyrosine; inflammatory response; dopachrome decarboxylase activity; dopachrome isomerase activity.	29318
death-associated protein	Dap	Apoptosis.	64322
EH-domain containing 2	Ehd2	Cortical actin cytoskeleton organization and biogenesis; cortical actin cytoskeleton organization and biogenesis;.	361512
enolase 2, gamma, neuronal	Eno2	Glycolysis; phosphopyruvate hydratase complex; lyase activity; phosphopyruvate hydratase activity; magnesium ion binding; phosphopyruvate hydratase activity.	24334

family with sequence similarity 20, member C	Fam20c		304334
family with sequence similarity 82, member C	Fam82c	Cell differentiation; apoptosis cytoplasm; mitochondrion; mitochondrial membrane; integral to membrane.	311328
Fc receptor, IgG, low affinity III	Fcgr3	Positive regulation of type I hypersensitivity; positive regulation of type III hypersensitivity; phagocytosis, cell surface receptor linked signal transduction.	116591
FIG4 homolog (S. cerevisiae)	Fig4		309855
GLI pathogenesis-related 2	Glpr2		679819
glycophorin C (Gerbich blood group)	Gypc		364837
glypican 3	Gpc3	Ureteric bud branching; negative regulation of cell proliferation; positive regulation of BMP signaling pathway; negative regulation of growth; anchored to membrane.	25236
Granulin	Grn	Positive regulation of epithelial cell proliferation; blastocyst hatching; lipid catabolic process; embryo implantation; phospholipid metabolic process.	29143
GTP binding protein 2	Gtpbp2		363195
guanylate nucleotide binding protein 2	Gbp2	Immune response; GTPase activity; GTP binding.	171164
histone cluster 2, H2be	Hist2h2be	Protein binding.	295274
histone deacetylase 2	Hdac2	Histone deacetylation; replication fork; nucleus; heterochromatin; enzyme binding; histone deacetylase activity; transcription factor activity.	84577
HtrA serine peptidase 1	Htra1	negative regulation of transforming growth factor beta receptor signaling pathway; regulation of cell growth; proteolysis; negative regulation of BMP signaling pathway.	65164
human immunodeficiency virus type I enhancer binding protein 2	Hivep2	Transcription; regulation of transcription, DNA-dependent; zinc ion binding; DNA binding.	29721
immediate early response 3	Ier3	Antigen processing and presentation of peptide antigen via MHC class I; antigen processing and presentation; immune response; MHC class I protein complex.	294235
insulin-like growth factor binding protein 5	Igfbp5	Skeletal muscle growth; regulation of cell growth; intracellular signaling cascade; extracellular region; insulin-like growth factor binding.	25285
integrin beta 1 (fibronectin receptor beta)	Itgb1	Regulation of G-protein coupled receptor protein signaling pathway; cell adhesion; integrin-	24511

		mediated signaling pathway; cell-matrix adhesion; sarcomere organization.	
interferon regulatory factor 6 (predicted)	Irf6_predicted	Biological process; skin development; negative regulation of cell proliferation; keratinocyte differentiation; cell development; keratinocyte proliferation; cellular component.	364081
interleukin 17 receptor E	Il17re	Membrane; integral to membrane; receptor activity.	362417
IQ motif containing GTPase activating protein 1 (predicted)	Iqgap1_predicted	Cytoplasm; leading edge; protein complex; neuron projection; protein complex binding.	361598
kinesin family member 15	Kif15	Microtubule-based movement; microtubule associated complex; growth factor activity; ATP binding; GTPase activator activity; microtubule motor activity.	353302
lamin A	Lmna	Nuclear membrane organization and biogenesis; spermatogenesis; nuclear matrix; lamin filament; intermediate filament.	60374
LOC363015 (predicted)	RGD1310444_predicted		363015
lysosomal membrane glycoprotein 1	Lamp1	Autophagy; lysosomal membrane; endosome; late endosome; melanosome; external side of plasma membrane; endosome membrane.	25328
mannosidase 1, alpha (predicted)	Man1a_predicted	ER-Golgi intermediate compartment; Golgi membrane; membrane; mannosyl-oligosaccharide 1,2-alpha-mannosidase activity; calcium ion binding.	294410
N-acetylneuraminatase pyruvate lyase	Npl	Metabolic process; carbohydrate metabolic process; cytoplasm; lyase activity; N-acetylneuraminatase lyase activity.	304860
N-terminal asparagine amidase	Ntan1	Memory; adult locomotory behavior; hydrolase activity; protein N-terminal asparagine amidohydrolase activity.	360462
potassium voltage gated channel, Shal-related family, member 2	Kcnd2	Potassium ion transport; regulation of action potential; protein heterooligomerization; cell surface; voltage-gated potassium.	65180
profilin 2	Pfn2	Regulation of actin filament polymerization; actin cytoskeleton organization and biogenesis; actin cytoskeleton.	81531
protective protein for beta-galactosidase	Ppqb	Proteolysis; cellular component; molecular function; serine carboxypeptidase activity.	296370
protein phosphatase 1, regulatory (inhibitor subunit 14B)	Ppp1r14b	Regulation of phosphorylation cytoplasm; protein phosphatase type 1 regulator activity; protein phosphatase inhibitor activity; protein binding.	259225
RAB3B, member RAS oncogene family	Rab3b	Peptidyl-cysteine methylation; regulation of exocytosis; protein transport; small GTPase mediated signal transduction; secretory granule; synaptic vesicle.	81755
ral guanine nucleotide dissociation stimulator,-like 1 (predicted)	Rgl1_predicted	Protein binding.	289080
RNA binding motif protein 12	Rbm12	Nucleotide binding; nucleic acid binding; protein binding.	652928
S-adenosylhomocysteine hydrolase-like 1 (predicted)	Ahcy1_predicted		362013
SH3 and PX domain containing 3 (predicted)	Sh3px3_predicted		315696
similar to 3632451O06Rik protein (predicted)	RGD1310110_predicted		361032
similar to cis-Golgi matrix protein GM130	LOC690485		690485
similar to DNA segment, Chr 4, Brigham & Womens Genetics 0951 expressed	RGD1308059		362535
similar to GA binding protein transcription factor, beta subunit 2 (GABPB2 (predicted)	RGD1560391_predicted		499883
similar to GREB1 protein isoform a (predicted)	RGD1562371_predicted		498819

similar to hypothetical protein FLJ14146	RGD1310587	Integral to membrane; membrane.	360894
similar to hypothetical protein MGC17337 (predicted)	RGD1308165_predicted	Identical protein binding.	362516
Similar to RIKEN cDNA 2610019F03	LOC498662		498662
similar to T03G11.6	LOC689540		689540
SPARC related modular calcium binding 2 (predicted)	Smoc2_predicted		292401
syndecan 1	Sdc1	Response to glucocorticoid stimulus; inflammatory response; response to hydrogen peroxide; odontogenesis; cell adhesion; cell-cell signaling; wound healing; response to toxin.	25216
taste receptor, type 1, member 2	Tas1r2	response to stimulus; G-protein coupled receptor protein signaling pathway; signal transduction; proline biosynthetic process; sensory perception of sweet taste; metabolic process.	29408
Tax1 (human T-cell leukemia virus type I binding protein 1)	Tax1bp1	Anti-apoptosis; intracellular; identical protein binding.	246244
testis expressed gene 14 (predicted)	Tex14_predicted		287603
tetratricopeptide repeat domain 6 (predicted)	Ttc6_predicted		299067
thymosin beta-like protein 1	Tmsb1	Actin cytoskeleton organization and biogenesis; sequestering of actin monomers; cytoplasm; actin binding.	286978
transmembrane and tetratricopeptide repeat containing 4	Tmtc4		290501
ubiquitin-activating enzyme E1-domain containing 1	Ube1dc1	Ubiquitin cycle; metabolic process; cytoplasm; catalytic activity.	300968
vasohibin 1	Vash1		503052
vasohibin 2	Vash2		498309
Vesicle amine transport protein 1 homolog (T californica)	Vat1	Metabolic process; oxidoreductase activity; zinc ion binding.	287721

ⁱ Annotation data was collected from Array Track.