

SUPPLEMENTAL TABLE 1. Genes and cellular pathways regulated by the upregulated microRNAs in *TRAMP/Akt1*^{-/-} compared to *TRAMP/Akt1*^{+/+} prostate

Genes	Gene associated pathways and cellular processes
Irf2bp2	Transcription
Gpd1l	Glycerophospholipid biosynthesis; Metabolism of fatty acid, triacylglycerol and ketone bodies; Metabolism of lipids and lipoproteins
Wwc1	Hippo signaling; Endoderm differentiation
Jarid2	Pluripotency of stem cells; Epigenetic regulation of gene expression
Tshz3	Transcription
Tgfb2	FoxO signaling pathway; MAPK signaling pathway; Cytokine-cytokine receptor interaction; MicroRNAs in cancer; Pathways in cancer; Extracellular matrix organization; Endocytosis
Atxn7	Chromatin modifying enzymes; Post-translational protein modification; Deubiquitination; Metabolism of proteins
Caprin1	Regulation of translation; Dendrite morphogenesis
March7	T-cell proliferation; Protein ubiquitination
Naa40 (Patt1)	N-terminal protein amino acid acetylation; Lipid metabolism
Apbb1	DNA double strand break response; DNA repair
Cacna1b	MAPK signaling pathways; Calcium signaling pathway
Fgf4	MAPK signaling pathway; RAF/MAP kinase cascade; Rap1 signaling pathway; Focal adhesion-PI3K-Akt-mTOR-signaling pathway; Signaling by VEGF; Signaling to ERKs; Signaling to RAS; Interleukin-2 signaling; Interleukin-3, 5 and GM-CSF signaling; Insulin receptor signaling cascade; Embryonic stem cells (ESC) pluripotency pathways; Regulation of actin cytoskeleton; VEGFR2 mediated cell proliferation
Ncapg2	Mesodermal commitment pathway ; Cell cycle; Condensation of prophase chromosomes; Endoderm differentiation
Fastkd2	Protein phosphorylation; Cellular respiration; Mitochondrial large ribosomal subunit assembly
Adrbk2 (Grk3)	Chemokine signaling pathway; Hedgehog signaling pathway; Thromboxane A2 receptor signaling; Signaling by GPCR; Clathrin-mediated endocytosis; Membrane trafficking
Npas2	Metabolism of fatty acid, triacylglycerol and ketone bodies; Metabolism of lipids and lipoproteins; Regulation of lipid metabolism by peroxisome proliferator-activated receptor alpha (PPAR α)
Asap3	Endocytosis; Fc gamma R-mediated phagocytosis
Cdkn2aip	Regulation of signal transduction; Protein stability and cell growth
Fzd6	MTOR signaling pathway; β -catenin independent Wnt signaling; Wnt signaling in cancer; Proteoglycans in cancer; ESC pluripotency pathways
Nlk	FoxO signaling pathway; IL-6 signaling pathway; MAPK signaling pathway; Presenilin action in Notch and Wnt signaling; β -catenin independent Wnt signaling; Noncanonical Wnt signaling pathway; Adherens junction; Ectoderm differentiation
Pfkfb4	AMPK signaling pathway; Glycolysis and metabolism of carbohydrates
Ero1lb	Protein processing in endoplasmic reticulum
Gcnt2	Glycosphingolipid biosynthesis; Terminal O-glycans residues modification; Metabolic pathways
Cx3cr1	Chemokine signaling pathway; Signaling by GPCR; Cytokine-cytokine receptor interaction

SUPPLEMENTAL TABLE 1. Continued

Genes	Gene associated pathways and cellular processes
Cyb5r2	Amino sugar and nucleotide sugar metabolism; Metabolism and oxidation by cytochrome P450
Fzd4	β-catenin independent Wnt signaling; Hippo signaling ; Wnt signaling pathway; MTOR signaling; Signaling by GPCR; Clathrin-mediated endocytosis; Ectoderm differentiation; Membrane trafficking; Mesodermal commitment pathway; Proteoglycans in cancer; Pluripotency
Podxl	Ectoderm differentiation
Pou3f2	Mecp2 and associated Rett syndrome
Sulf1	Wnt signaling pathway; BMP signaling pathway; Endothelial growth factor receptor signaling pathway; Fibroblast growth factor receptor signaling pathway; Cell apoptosis; Angiogenesis; Endothelial cell proliferation; Cell migration; Prostatic bud formation; Bone development
Acot8	Synthesis of bile acids and bile salts; Metabolism of fatty acid, triacylglycerol, and ketone bodies; Metabolism of lipids and lipoproteins; Alpha-linolenic acid (ALA) metabolism; Peroxisomal lipid metabolism
Bcl2l13	Apoptosis
Gon4l	Transcription
Fut9	Glycosphingolipid biosynthesis; Mannose type O-glycan biosynthesis; Metabolic pathways
Ppil3 (CypJ)	Regulation of mRNA splicing and protein folding
Ptpu	Canonical Wnt signaling pathway; Erythropoietin receptor signaling; Transmembrane receptor protein tyrosine phosphatase signaling pathway; Signaling by stem cell factor-KIT; Cell adhesion; Cell proliferation; Cell migration; Protein dephosphorylation
Sun1	Cell cycle; Cytoskeletal anchoring at nuclear membrane and nucleokinesis involved in cell motility in cerebral cortex radial glia guided migration
Pkn2	PI3K-Akt signaling pathway; Signaling by Rho GTPases
Itk	Chemokine signaling pathway, T-cell receptor signaling pathway; Leukocyte transendothelial migration; Protein phosphorylation; Cell proliferation
Map3k 11	FCERI mediated MAPK activation; Gastrin-CREB signaling pathway via PKC and MAPK; Interleukin-2, 3, 5 and GM-CSF signaling; Oncogenic MAPK signaling; RAC1 signaling; Signaling by PDGF; Signaling by RAS; Angiopoietin like protein 8 regulatory pathway; VEGFR2 mediated cell proliferation; Protein phosphorylation; Cell proliferation; Cell apoptosis
Tacr1	Gastrin-CREB signaling pathway via PKC and MAPK; Signaling by GPCR; Clathrin-mediated endocytosis; Membrane trafficking; Epithelial cell proliferation and migration; Vascular permeability
Thoc1	Gene expression; Cleavage of growing transcript in the termination region; mRNA 3'-end processing
Fubp1	Transcription; Gene expression
Apc	Wnt signaling pathways; Hippo signaling pathway; β-catenin phosphorylation cascade; Pathways and microRNAs in cancer; Apoptosis; Deubiquitination; ESC pluripotency pathways; Metabolism of proteins; Post-translational protein modification; Regulation of actin cytoskeleton
Nfia	Transcription
Ccdc80	Regulation of extracellular matrix organization and cell-substrate adhesion
Tet1	Endoderm differentiation; Epigenetic regulation of gene expression; Mesodermal commitment pathway
Col3a1	TGFβ signaling pathway; Collagen biosynthesis and modifying enzymes; Endothelins; Extracellular matrix organization; Focal adhesion; Senescence and autophagy in cancer; miRNA targets in ECM and membrane receptors

SUPPLEMENTAL TABLE 1. Continued

Genes	Gene associated pathways and cellular processes
Robo1	Netrin-1 signaling; Activation of Rac; Regulation of epithelial cell migration and cell-cell adhesion
Pmp22	$\alpha 6\beta 1$ and $\alpha 6\beta 4$ Integrin signaling; Neural crest differentiation; Regulation of cell proliferation and cell death
Dpysl5	Regulation of signal transduction
Col6a3	PI3K-Akt signaling pathway; Signaling by PDGF; miRNA targets in ECM and membrane receptors; Assembly of collagen fibrils and other multimeric structures; Collagen biosynthesis and modifying enzymes; ECM-receptor interaction; Focal adhesion
Lrp6	Canonical Wnt signaling pathway in cancer; Presenilin action in Notch and Wnt signaling; MTOR signaling pathway; Wnt/ β -catenin signaling pathway in leukemia; Regulation of FZD by ubiquitination
Rnd3	Rho protein signal transduction; Actin cytoskeleton organization; Cell adhesion and migration
Dusp2	FCERI mediated MAPK activation; Gastrin-CREB signaling pathway via PKC and MAPK; Interleukin-2, 3, 5 and GM-CSF signaling; RAF/MAP kinase cascade; Signaling by EGFR; PDGF signaling; RAS signaling; Cytokine signaling in immune system; VEGFR2 mediated cell proliferation; Protein dephosphorylation; Endoderm differentiation
Cd276 (B7-H3)	Cell adhesion molecules; Regulation of cell proliferation; Immune response; Cytokine production
Irs1	AGE/RAGE pathway; AMPK signaling pathway; Adipocytokine signaling pathway; $\alpha 6 \beta 4$ signaling pathway; DAP12 signaling; EPO receptor signaling; Factors and pathways affecting insulin-like growth factor (IGF1)-Akt signaling; Fc epsilon receptor (FCERI) signaling; FoxO signaling pathway; Gastrin-CREB signaling pathway via PKC and MAPK; Growth hormone receptor signaling; IGF1 pathway; IL-4 signaling pathway; Insulin signaling pathway; Integrins in angiogenesis; Interleukin-2, 3, 5 and GM-CSF signaling; Leptin signaling pathway; MAPK family signaling cascades; Oncostatin M signaling pathway; PI3K-Akt signaling in cancer; Prolactin signaling pathway; RAF/MAP kinase cascade; Signaling pathways in glioblastoma; Signaling by EGFR; Signaling by GPCR; Signaling by PDGF; Signaling by VEGF; Signaling to ERKs; Signaling to RAS; MTOR signaling pathway; MicroRNAs in cancer
Tet3	Epigenetic regulation of gene expression; DNA demethylation; Protein O-linked glycosylation; Oxidation-reduction process; MECP2 and Associated Rett Syndrome
Rnf13	Integral component of membrane
Vegfa	PI3K-Akt signaling pathway; HIF-1 signaling pathway; Rap1 signaling; Oncostatin M signaling pathway; Signaling by VEGF; Interleukin-4 and 13 signaling; Integrins in angiogenesis; miR-148a/miR-31/FIH1/HIF1 α ; Notch signaling in glioblastoma; Pathways in cancer; MicroRNAs in cancer; Proteoglycans in cancer; Focal adhesion; Epithelial cell differentiation; Angiogenesis; Endothelial cell chemotaxis; Cytokine-cytokine receptor interaction; Differentiation pathway
Lims1 (PINCH)	NIK/NF-kappa B signaling; TNF-mediated signaling pathway; Cell junction organization; Cell-cell communication; Focal adhesion assembly; Cell-extracellular matrix interactions; Cell-substrate adhesion; Regulation of cytoskeletal remodeling and cell spreading by IPP complex components; GTPase activity
Mlf1	Transcriptional misregulation in cancer; Transcription; Cell cycle arrest
Ntsr2	Signaling by GPCR; Gastrin-CREB signaling pathway via PKC and MAPK
Ireb2 (Irp2)	Validated targets of C-MYC transcriptional activation; Metabolic process; Iron ion transport
Ybx3	Apoptosis; Tight junction; Spermatogenesis; Organ growth; Regulation of necroptotic process
Zfp692	Transcription
Sh3glb1 (Bif1)	Senescence and autophagy in cancer; Endocytosis; Regulation of cytokinesis; Regulation of protein stability
Sparc	Senescence and autophagy in cancer; Extracellular matrix organization; Cellular response to growth factor stimulus; CM proteoglycans; Vesicle-mediated transport; Bone development; Response to cytokine

SUPPLEMENTAL TABLE 1. Continued

Genes	Gene associated pathways and cellular processes
Grip1 (SRC-2)	Intracellular signal transduction; Androgen receptor signaling pathway; Brain-Derived Neurotrophic Factor (BDNF) signaling pathway; Glutamate binding; Trafficking of AMPA receptors; Transcription
Fem1b	Apoptosis; Branching involved in prostate gland morphogenesis; Epithelial cell maturation involved in prostate gland development; Post-translational protein modification
Nap1l3	Nucleosome assembly
Loxl2	Canonical and Non-Canonical TGF β signaling; Assembly of collagen fibrils and other multimeric structures; Collagen formation; Extracellular matrix organization; Cell adhesion; Endothelial cell migration; Endothelial cell proliferation; Epithelial to mesenchymal transition; Angiogenesis
Rnf19a	Microtubule cytoskeleton organization; Protein polyubiquitination
Trib2	MAP kinase activity; Cell differentiation; Protein kinase activity; Proteasomal ubiquitin-dependent protein catabolic process
Eps15	EGF/EGFR signaling pathway; Notch signaling pathway; Signaling events mediated by Hepatocyte Growth Factor Receptor (c-Met); Clathrin-mediated endocytosis; Membrane trafficking; Cell proliferation
Has3	Glycosaminoglycan metabolism; Hyaluronan metabolism; Metabolism of carbohydrates; Cell adhesion; Extracellular matrix assembly
Col4a1	PI3K-Akt signaling pathway; Signaling by PDGF; Epithelial cell differentiation; Protein digestion and absorption; Collagen formation; Assembly of collagen fibrils and other multimeric structures; Extracellular matrix organization; ECM-receptor interaction; Focal adhesion; Vesicle-mediated transport; miRNA targets in ECM and membrane receptors
Col11a1	Collagen formation; Assembly of collagen fibrils and other multimeric structures; Extracellular matrix organization; ECM-receptor interaction; Focal adhesion; Endodermal cell differentiation; Proteoglycan metabolic process
Gpr37	Adenylate cyclase-inhibiting G-protein coupled receptor signaling pathway; Signaling by GPCR; MAPK cascade; Dopamine metabolic process
Narf	Oxidation-reduction process
Nasp	DNA replication; Cell proliferation; Protein transport; Male gonad development; Response to testosterone
Zdhc5	Protein palmitoylation
Trabd2b	Wnt signaling pathway; Protein oligomerization; Protein oxidation; Proteolysis
Ifi30	Cytokine signaling in immune system; Interferon signaling; Oxidation-reduction process
Stap2	Signaling by PTK6; Tyrosine phosphorylation of STAT protein
Col5a1	Collagen formation; Assembly of collagen fibrils and other multimeric structures; Extracellular matrix organization; Focal adhesion; Protein digestion and absorption; miRNA targets in ECM and membrane receptors; Cell adhesion; Cell migration; Blood vessel development; Integrin biosynthetic process
Rcn2	Protein binding
Lin7a	Exocytosis; Epithelial cell apical/basal polarity; Protein transport; Protein-containing complex assembly
Mcm8	Activation of ATR (ATM- and rad3-related kinase) in response to replication stress; Cell cycle; DNA replication
Rex2	Ribosome biogenesis in eukaryotes
Sstr1	Somatostatin signaling pathway; Neuropeptide signaling pathway; Signaling by GPCR; cAMP signaling pathway; Regulation of cell proliferation
Nid1	Degradation of the extracellular matrix; Extracellular matrix organization; Laminin interactions; Cell-matrix adhesion

SUPPLEMENTAL TABLE 1. Continued

Genes	Gene associated pathways and cellular processes
Rgs17	Signaling by GPCR; Regulation of GTPase activity
Klf14	Transcription by RNA polymerase II
Nek8	Hippo signaling; Protein phosphorylation
Ttbk2	Anchoring of the basal body to the plasma membrane; Cell migration and shape; Organelle biogenesis and maintenance
Dlx1	Notch signaling pathway; BMP signaling pathway; TGF β signaling; Cell differentiation; Transcription by RNA polymerase II
Urgcp	Cell cycle
Cdc42bpb	Actin cytoskeleton reorganization; Cell migration; Cell polarity; Intracellular signal transduction; Protein phosphorylation
Kras	PI3K-AKT-mTOR signaling pathway; Rac1/Pak1/p38/MMP-2 pathway; Oncogenic MAPK signaling pathway; TNF α signaling pathway; Interleukin-2, 3, 5 and GM-CSF signaling; Tie2 signaling; VEGF signaling pathway; FoxO signaling pathway; BDNF-TrkB signaling; Apelin signaling pathway; Chemokine signaling pathway; ErbB signaling pathway; Gastrin-CREB signaling pathway via PKC and MAPK; Signaling by EGFR in cancer; Signaling by FGFR; Signaling by GPCR; Signaling to ERKs; Signaling to RAS; RAF activation; Oxytocin signaling pathway; Prolactin signaling pathway; GnRH signaling pathway; Estrogen signaling pathway; FRS-mediated FGFR1 signaling; Fc epsilon receptor (FCERI) signaling; Gap junction; Choline metabolism in cancer; Apoptosis; B cell receptor signaling pathway; Acute myeloid leukemia; Central carbon metabolism in cancer;
Hnrnpd	mRNA processing; mRNA splicing; Transcription
Parp1	NF-kappa B signaling pathway; Signaling by TGF β receptor complex; Apoptosis; Base excision repair; Downregulation of SMAD2/3:SMAD4 transcriptional activity; Fas Ligand (FasL) pathway and Stress induction of Heat Shock Proteins (HSP) regulation; Generic transcription pathway; Metabolism of proteins
Appl1	Follicle Stimulating Hormone (FSH) signaling pathway; Caspase activation via extrinsic apoptotic signaling pathway; Coregulation of androgen receptor activity; Pathways in cancer; Apoptosis
Btbd3	Regulation of proteolysis; Response to stress; Dendrite morphogenesis
Galnt7	Metabolism of proteins; O-glycan biosynthesis; Post-translational protein modification; Carbohydrate metabolic process
Magea2	Signal transduction by p53 class mediator; Transcription; Regulation of protein catabolic process (acetylation and sumoylation); Cellular senescence
Ppp2r1b	AMPK signaling pathway; Activated TLR4 signaling; β catenin phosphorylation cascade; DAP12 signaling; Fc epsilon receptor (FCERI) signaling; Hippo signaling pathway; FCERI mediated MAPK activation; Gastrin-CREB signaling pathway via PKC and MAPK; IRS-mediated signaling; Interleukin receptor SHC signaling; Interleukin-2, 3, 5 and GM-CSF signaling; MAPK family signaling cascades; PI3K-Akt signaling pathway; RAF activation; RET signaling; Signaling by EGFR; Signaling by GPCR; Signaling by Interleukins; Signaling by Rho GTPases; Signaling by VEGF; Signaling by wnt in cancer; Signaling to ERKs; Signaling to RAS; TGF β signaling pathway; Regulation of TP53 Activity; Cell cycle; Glucose metabolism; Glycogen metabolism; Tight junction; Toll-like receptors cascades; VEGFR2 mediated cell proliferation;
Ctnna2	Hippo signaling pathway; Pathways in cancer; Adherens junction; Cell differentiation; Bacterial invasion of epithelial cells; Leukocyte transendothelial migration;
Tfpi2	Regulation of endopeptidase activity and extracellular matrix structural
2610018G03Rik (Stk26)	MAPK cascade; LKB1 signaling; Protein phosphorylation; Cell migration; Apoptosis; Apoptotic cleavage of cellular proteins
Cldn23	Cell adhesion molecules (CAMs); Cell-Cell communication; Leukocyte transendothelial migration; Tight junction
Kctd12	Component of cell junction; Regulates RNA and protein binding

SUPPLEMENTAL TABLE 2. Genes and cellular pathways regulated by the downregulated microRNAs in *TRAMP/Akt1*^{-/-} compared to *TRAMP/Akt1*^{+/+} prostate

Genes	Gene associated pathways and cellular processes
Mcl1	PI3K signaling and apoptosis
Dlec1	Pathways in lung cancer and prostate cancer
Arhgef11 (RhoGEF)	Pathways in cancer
Snd1	MAPK signaling and viral carcinogenesis
Cse1l	P53 pathway; Ras-induced cancer; Apoptosis
Ank2	Metabolism of proteins; Post-translational protein modification; Membrane trafficking in cancer
Ptgs2	VEGF signaling, TNF signaling; NFKB signaling; Interleukin-4/10/13/17 signaling pathways; Cytokine signaling in immune system; Lipid and lipoproteins metabolism
Rad1	Cellular senescence; Regulation of cell cycle and cell division; DNA repair
Wnt9b and Wnt5b	MTOR and Wnt signaling pathways; Signaling regulating proteoglycan in cancer and basal cell carcinoma,; Signaling regulating pluripotency of stem cells
Kras	PI3K-AKT-mTOR signaling; Ras signaling; MAPK signaling, FoxO signaling; EGFR and FGFR signaling; Rap1 signaling; Signaling regulating autophagy and apoptosis; BDNF-TrkB signaling; Chemokines signaling pathways; Gap junction; Viral carcinogenesis; Proteoglycans in cancer
Grhl2	Regulation of tumor metastasis via RhoG; Cell junction protein expression
Rasal2	Ras signaling, MAPK1/MAPK3 signaling; IRS-mediated signaling; VEGFA-VEGFR2 signaling; Signaling to p38 MAPK via RIT and RIN
Mgat3	Metabolic signaling; Metabolism of proteins; Expansion and stabilization of the E-cadherin adherens junction; Post-translational protein modification and N-Glycan biosynthesis
Swap70	Oncogene; Regulation of actin rearrangement
Epn2	Clathrin-mediated endocytosis; Membrane trafficking and ubiquitin-binding adaptor proteins
Hmgn1	P38 MAPK signaling pathway; MAPK-Erk Pathway; DNA Repair
Fgf13	PI3K-Akt signaling; Rap1 signaling; NRF2 pathway; MAPK signaling; Ras signaling; ERK pathway; TGFβ pathway; Regulation of actin cytoskeleton; Proliferation and differentiation of skeletal muscle; Ribosomal biogenesis and neuronal polarization and migration
Gas7	Regulation of N-WASP/FAK/F-actin and hnRNP U/β-TrCP/β-catenin pathways in lung cancer; Regulation of neuronal cell morphology via microtubule and actin filament assembly
Mutyh	Base excision repair; Oxidative damaged gene repair
Vat1	Immune system and neutrophil degranulation
Bloc1s2	Apoptosis
Bag2	Cellular responses to stress; Protein processing in endoplasmic reticulum; Regulation of HSF1-mediated heat shock response
RFwd2	P53 signaling pathway; P53-Dependent G1/S DNA damage checkpoint; Autodegradation of the E3 ubiquitin ligase COP1
Ccdc8	Microtubule cytoskeleton organization; Regulation of phosphatase activity; Post-translational protein modification
Nampt	NOD-like receptor signaling pathway; Adipogenesis; Metabolism of Nicotinate; Metabolism of water-soluble vitamins and cofactors
Chek1	ATM signaling pathway; ATR signaling; DNA repair; Regulation of TP53 activity through phosphorylation; Regulation of p53 signaling pathway and retinoblastoma (RB) in cancer
Cysltr1	GPCR downstream signaling; Endothelins; Leukotriene receptors; Gastrin-CREB signaling pathway via PKC and MAPK
Dimt1	rRNA modification in the nucleus and cytosol; Gene expression

SUPPLEMENTAL TABLE 3. Genes involved in the EMT pathways regulated by the upregulated microRNAs in Triciribine-treated advanced *TRAMP* prostates compared to DMSO-treated *TRAMP* prostates

Genes regulated by miRNAs	EMT genes
PPARG	TGFβ1, N-cadherin, Vimentin, Fibronectin, MMPs
CUX1	TGFB1 migratory effect
ID2	α-SMA
MTDH	N-cadherin, Vimentin, Snail, Fibronectin
HS3ST3B1	Snail
Slc39a6	Snail
Vsnl1	Snail
Flt1	N-cadherin, Vimentin
Hspb1	Snail, Vimentin
Mta3	Snail
Snai1	Snail
Ror2	Snail
Pin1	Snail
Hpse	α-SMA, Vimentin, Fibronectin, MMP9
Tcf7	MMP7
Sema7a	TGFβ1-induced EMT
Rgs3	Snail
Lep	N-cadherin, Vimentin, Snail, Fibronectin, Slug
Dlx4	Twist, Snail
Nfic	Vimentin
Tnc	α-SMA, Fibronectin
Foxm1	Snail, Vimentin, ZEB1, ZEB2
Srf	RhoA

SUPPLEMENTAL TABLE 4. Genes involved in the EMT pathways regulated by the downregulated microRNAs in Triciribine-treated advanced *TRAMP* prostates compared to DMSO-treated *TRAMP* prostates

Genes regulated by miRNAs	EMT genes
TGFBR1	Slug
HMGA2	N-cadherin, Vimentin, Snail, Slug, Twist
RGS3	Snail
FSCN1	Vimentin, Snail
DAB2	N-cadherin
MTDH	N-cadherin, Vimentin, Snail, Fibronectin
MAP3K7/TAK1	N-cadherin, Vimentin, Fibronectin
MAPK8	HMGA2 and FSP-1
EGFR	Twist-1, N-cadherin, Vimentin, Fibronectin, MMP9
COL8A1	Vimentin, FSP-1 and MMP2
EZH2	Fibronectin, N-cadherin, Vimentin, Slug
GAB2	ZEB1
HS3ST3B1	Snail