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Manuscript Title: Comparative Multidimensional Molecular Analyses of Pediatric Diffuse Intrinsic Pontine Glioma Reveals Distinct Molecular

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Top Networks of Molecular Interaction	Dysregulated Gene Expression by H3.3 Mutation Status	
	Embryonal Development, Organ Development	Cell Cycle, Cell Development, Connective Tissue Development and Function
<i>Gene Name</i> (Fold Change in Expression Value, Mutant/Wild Type)	<i>ADRA1A</i> (-4.00); <i>AMOTL1</i> (-6.82); <i>CACNA1G</i> (-2.42); <i>Cg</i> ; <i>CSH1/CSH2</i> (-2.28); <i>DHH</i> (-3.06); <i>DNMT3B</i> (-2.16); <i>ECT2</i> (-8.02); <i>EDN2</i> (-4.00); <i>EDNRB</i> (-3.38); <i>ERK</i> ; <i>FOXF1</i> (-4.24); <i>FSH</i> ; <i>Gpcr</i> ; <i>GPR107</i> (-20.67); <i>GPR110</i> (-3.05); <i>GPR149</i> (-2.66); <i>Hdac: Hedgehog</i> ; <i>Histone h3</i> ; <i>HTR6</i> (-2.68); <i>INPP5A</i> (-5.17); <i>Mapk</i> ; <i>MEFV</i> (-4.54); <i>mir-506</i> (-3.47); <i>MYLK3</i> (-4.29); <i>NFkB</i> (complex); <i>Pkc(s)</i> ; <i>POU2F3</i> (-3.45); <i>RAB39B</i> (-2.54); <i>Ras homolog</i> ; <i>RGS13</i> (-25.83); <i>TAT</i> (-3.46); <i>TTN</i> (-6.67); <i>Vegf</i>	<i>Arf</i> ; <i>CD3</i> ; <i>CD4</i> (-8.20); <i>Collagen(s)</i> ; <i>Cpla2</i> ; <i>CREB3L1</i> (-7.30); <i>E2F5</i> (-2.25); <i>ERK1/2</i> ; <i>F Actin</i> ; <i>Fcer1</i> ; <i>FGR</i> (-3.68); <i>FNI</i> (-2.41); <i>Focal adhesion kinase</i> ; <i>GPRIN2</i> (-3.73); <i>Hsp90</i> ; <i>Ige</i> ; <i>IgG</i> ; <i>KLK3</i> (-2.28); <i>LALBA</i> (-4.25); <i>let-7</i> (-23.19); <i>MGST1</i> (-6.40); <i>mir-126</i> (-2.67); <i>MYBL2</i> (-2.26); <i>NOD1</i> (-14.09); <i>NPM1</i> (-7.64); <i>P38</i> ; <i>MAPK</i> ; <i>p85</i> (pik3r); <i>PDGF BB</i> ; <i>PLA2G4A</i> (-3.50); <i>PRX</i> (-11.11); <i>Ras</i> ; <i>SLAMF1</i> (-10.23); <i>SPG21</i> (-5.29); <i>SPTB</i> (-20.21); <i>TCR</i>
Top Biological Functions	Genes Upregulated in only H3.3 Mutants	Genes Downregulated in only H3.3 Mutants
	Activation of Endogenous DNA Promotor Regions (<i>p</i> -value < 0.003)	Cellular Development (<i>p</i> -value < 0.000004)
<i>Gene Name</i> (Fold Change in Expression Value, Mutant/Wild Type)	<i>GATA2</i> (3.70); <i>GLO1</i> (2.19); <i>HBZ</i> (3.36); <i>HIPK1</i> (3.04); <i>MAZ</i> (2.50); <i>MLL2</i> (6.40); <i>NKX3-1</i> (48.52)	<i>ABL2</i> (-4.82); <i>ADRA1A</i> (-4.00); <i>CACNA1G</i> (-2.42); <i>CREB3L1</i> (-7.30); <i>DHH</i> (-3.06); <i>DNMT3B</i> (-2.16); <i>ECT2</i> (-8.02); <i>EDNRB</i> (-3.38); <i>FNI</i> (-2.41); <i>GATA2</i> (3.70); <i>HIST1H4A</i> (6.05); <i>let-7</i> (-23.19); <i>MESDC2</i> (2.31); <i>mir-126</i> (-2.67); <i>MYBL2</i> (-2.26); <i>NKX3-1</i> (48.52); <i>NPM1</i> (-7.64); <i>PLA2G4A</i> (-3.50); <i>PRKCZ</i> (6.50); <i>TTN</i> (-6.67); <i>UBE2D3</i> (2.59)