

**Table S4 Statistical significance KEGG classification (P<0.05) of the differentially expressed genes between wild-type and *Atf4*<sup>-/-</sup> MEFs**

Category (P-value)	Gene symbol	Accession NO.	Fold change*
Circadian rhythm (P=0.000059)	<i>Bmal1 (Arntl)</i>	NM_007489	2.105
	<i>Dec1 (Bhlhe40)</i>	NM_011498	0.388
	<i>Cry2</i>	NM_009963	0.429
	<i>Rev-erba (Nrd1d)</i>	NM_145434	0.332
	<i>Per2</i>	NM_011066	0.087
	<i>Per3</i>	NM_011067	0.094
Melanogenesis (P=0.0096)	<i>Adcy5</i>	NM_001012765	0.309
	<i>Camk2b</i>	NM_007595	0.138
	<i>Fzd2</i>	NM_020510	0.379
	<i>Fzd4</i>	NM_008055	0.478
	<i>Nonagouti</i>	NM_015770	0.039
	<i>Prkcb</i>	NM_008855	0.501
	<i>Wnt8b</i>	NM_011720	6.213
	<i>Wnt16</i>	NM_053116	3.698
	<i>Wnt4</i>	NM_009523	2.393
<i>Wnt5b</i>	NM_009525	2.830	
Retinol metabolism (P=0.011)	<i>Ugt2b1</i>	NM_152811	0.397
	<i>Aldh1a1</i>	NM_013467	4.772
	<i>Bcmo1</i>	NM_021486	31.089
	<i>Cyp26b1</i>	NM_175475	4.805
	<i>Dhrs3</i>	NM_011303	2.760
	<i>Rdh8</i>	NM_001030290	0.233
	<i>Cyp4a32</i>	NM_001100181	24.941
<i>Ugt1a6a</i>	NM_145079	3.304	
Arrhythmogenic right ventricular cardiomyopathy (P=0.018)	<i>Cttna2</i>	NM_009819	0.426
	<i>Cttna3</i>	NM_001164376	0.097
	<i>Des</i>	NM_010043	2.019
	<i>Dsp</i>	NM_023842	8.143
	<i>Dmd</i>	NM_007868	9.353
	<i>Itga1</i>	NM_001033228	3.872
	<i>Itga7</i>	NM_008398	0.442
<i>Sgca</i>	NM_009161	13.595	
ABC transporter (P=0.022)	<i>Abca12</i>	NM_175210	0.091
	<i>Abca5</i>	NM_147219	0.393
	<i>Abcb1a</i>	NM_011076	3.022
	<i>Abcb1a</i>	NM_011075	2.456
	<i>Abcb4</i>	NM_008830	3.196
<i>Abcg3</i>	NM_030239	0.031	
Xenobiotic metabolism (P=0.032)	<i>Ugt2b1</i>	NM_152811	0.397
	<i>Gsta1</i>	NM_008181	4.763
	<i>Gsta2</i>	NM_008182	5.029
	<i>Gsta4</i>	NM_010357	2.712
	<i>Mgst2</i>	NM_174995	2.018
	<i>Mgst3</i>	NM_025569	0.481
	<i>Ugt1a6a</i>	NM_145079	3.304
Hypertrophic cardiomyopathy (P=0.032)	<i>Actc1</i>	NM_009608	10.533
	<i>Des</i>	NM_010043	2.019
	<i>Dmd</i>	NM_007868	9.353
	<i>Itga1</i>	NM_001033228	3.871
	<i>Itga7</i>	NM_008398	0.442
	<i>Il6</i>	NM_031168	0.255
	<i>Sgca</i>	NM_009161	13.595
<i>Tpm1</i>	NM_001164248	2.435	
Hedgehog signaling pathway (P=0.045)	<i>Bmp8b</i>	NM_007559	4.969
	<i>Dhh</i>	NM_007857	4.288
	<i>Wnt8b</i>	NM_011720	6.213
	<i>Wnt16</i>	NM_053116	3.698
	<i>Wnt4</i>	NM_009523	2.393
<i>Wnt5b</i>	NM_009525	2.830	

Fold change is gene expression in ATF4<sup>-/-</sup> MEFs relative to wild-type.