Suppl. Table 1: Genes from the Ca-depleted diet group involved in MAPK and TGF-beta signaling pathway in adipose tissue (step-up FDR-corrected $p \leq 0.05$)

Ca-depleted vs. BR (FDR corrected genes), adipose		Mean (BR)	Mean (Ca depl)	Fold Change (BR/Ca depl)
MAPK signaling pathway (genes):		**(log base 2)**		
1449901_A_AT	mitogen-activated protein kinase kinase kinase 6	9.16606	8.72352	1.359
1445786_AT	braf transforming gene	6.38478	7.08513	-1.62491
1446390_AT	elk1, member of ets oncogene family	0.459504	2.6056	-4.42628
1441521_AT	calcium channel, voltage-dependent, beta 2 subunit	3.42586	2.48783	1.9159
1422250_AT	mitogen activated protein kinase kinase kinase 2	4.94582	5.86342	-1.88897
1427739_A_AT	transformation related protein 53	6.87725	7.76916	-1.85564
1422078_AT	thymoma viral proto-oncogene 3	6.59676	7.20295	-1.52224
1449545_AT	fibroblast growth factor 18	5.25803	3.47341	3.44527
1450096_AT	guanine nucleotide binding protein, alpha 12	3.85947	6.13253	-4.8335
1452525_A_AT	neurofibromatosis 1	5.25062	6.41262	-2.23768
1448558_A_AT	phospholipase a2, group iva (cytosolic, calcium-dependent)	9.84588	9.55461	1.22372
1421297_A_AT	calcium channel, voltage-dependent, l type, alpha 1c subunit	6.39772	5.40047	1.99619
1443115_AT	transforming growth factor, beta receptor ii	5.06088	5.96757	-1.87474
1439828_AT	map kinase-activated protein kinase 5	6.54279	7.18772	-1.56366
1435196_AT	neurotrophic tyrosine kinase, receptor, type 2	8.51684	7.93628	1.49543
1450698_AT	dual specificity phosphatase 2	7.42911	6.94081	1.40279
1418786_AT	mitogen-activated protein kinase 8 interacting protein 2	4.02391	6.08048	-4.15994
1421376_AT	tnf receptor-associated factor 6	6.72878	7.61592	-1.84951
1456720_AT	protein phosphatase 3, regulatory subunit b, alpha isoform (calcineurin b, type i)	7.16588	8.16064	-1.99275
1427162_A_AT	elk4, member of ets oncogene family	11.2233	10.7157	1.42162
1415974_AT	mitogen activated protein kinase kinase 2	10.1422	9.52584	1.53299
1417542_AT	ribosomal protein s6 kinase, related sequence 1	9.48114	9.2165	1.20134
1427582_AT	fibroblast growth factor 6	3.01589	3.73843	-1.65008
1426108_S_AT	calcium channel, voltage-dependent, beta 1 subunit	4.97692	6.02046	-2.06128
1447823_X_AT	mitogen-activated protein kinase 12	5.03057	6.62853	-3.02715
1451882_A_AT	fibroblast growth factor 8	1.37588	3.36466	-3.96901
1459029_AT	p21 (cdkn1a)-activated kinase 1	3.00307	1.89113	2.16137
1422999_AT	mitogen-activated protein kinase kinase kinase 14	7.80812	8.39522	-1.50222
1440442_AT	mitogen activated protein kinase kinase 7	3.79031	5.92261	-4.38417
1420596_AT	calcium channel, voltage-dependent, gamma	3.13064	3.85915	-1.65692

	subunit 2			
1449955_AT	calcium channel, voltage-dependent, alpha 1f subunit	6.60535	7.2731	-1.58859

TGF beta signaling pathway (genes):

1443115_AT	transforming growth factor, beta receptor ii	5.06088	5.96757	-1.87474
1439856_AT	activin receptor iib	5.15205	7.29856	-4.42757
1421822_AT	protein phosphatase 2 (formerly 2a), catalytic subunit, beta isoform	5.33567	6.41794	-2.11737
1440952_AT	mad homolog 7 (drosophila)	7.21287	7.52469	-1.24127
1423259_AT	inhibitor of dna binding 4	9.06812	8.28231	1.72406
1438991_X_AT, 1455929_X_AT	protein phosphatase 2 (formerly 2a), regulatory subunit a (pr 65), alpha isoform	13.5936	13.3733	1.16499
1422058_AT	nodal	6.22734	6.71284	-1.40007
1420033_S_AT	protein phosphatase 2, regulatory subunit b, delta isoform	10.9998	10.8097	1.14087
1433641_AT	mad homolog 5 (drosophila)	9.85841	9.46701	1.31166
1450759_AT	bone morphogenetic protein 6	8.51295	7.51469	1.99759
1453596_AT	inhibitor of dna binding 2	6.31961	7.22302	-1.87048
1419786_AT	latent transforming growth factor beta binding protein 1	2.8265	4.66182	-3.56851
1454852_AT	trans-acting transcription factor 1	11.3672	10.9986	1.29114
1434310_AT	bone morphogenic protein receptor, type ii (serine/threonine kinase)	12.3331	11.9679	1.28804

Suppl. Table 2: Genes from the low Ca/BCAA/ACEi diet group involved in MAPK and JAK-STAT signaling pathway in adipose tissue (step-up FDR-corrected $p \leq 0.05$)

Low Ca/BCAA/ACEi vs. BR (FDR corrected genes), adipose		Mean (BR)	Mean (low Ca)	Fold Change (BR/low Ca)
MAPK signaling pathway (genes):		**(log base 2)**		
1449901_A_AT	mitogen-activated protein kinase kinase kinase 6	9.16606	8.30664	1.81431
1427739_A_AT	transformation related protein 53	6.87725	7.74499	-1.82481
1422078_AT	thymoma viral proto-oncogene 3	6.59676	7.33573	-1.66899
1425902_A_AT	nuclear factor of kappa light polypeptide gene enhancer in b-cells 2, p49/p100	7.35802	8.40014	-2.05925
1450975_AT	calcium channel, voltage-dependent, gamma subunit 4	5.4792	3.83728	3.12081
1450096_AT	guanine nucleotide binding protein, alpha 12	3.85947	6.18042	-4.99663
1440343_AT	ribosomal protein s6 kinase, polypeptide 5	7.94383	7.28855	1.57492
1435747_AT	fibroblast growth factor 14	2.56013	0.714246	3.59472
1443630_AT	protein phosphatase 3, catalytic subunit, alpha isoform	6.41964	5.65832	1.69505
1453171_S_AT	protein phosphatase 1a, magnesium dependent, alpha isoform	11.0325	10.6321	1.31984
1443115_AT	transforming growth factor, beta receptor ii	5.06088	5.79602	-1.66457
1460296_A_AT	fibroblast growth factor 22	7.13396	4.58583	5.84875
1438325_AT	ecotropic viral integration site 1	8.80928	8.02728	1.71951
1454313_AT, 1457563_AT	epidermal growth factor receptor	7.08212	6.31746	1.69897
1425330_A_AT	protein phosphatase 1b, magnesium dependent, beta isoform	8.20206	8.70774	-1.41979
1447667_X_AT	mitogen activated protein kinase kinase kinase 4	8.0985	7.67661	1.33967
1418943_AT	riken cdna b230120h23 gene	7.0025	7.61462	-1.5285
1449073_AT	filamin c, gamma (actin binding protein 280)	5.4219	7.48902	-4.19049
1426165_A_AT	caspase 3	6.21513	7.01698	-1.74334
1427162_A_AT	elk4, member of ets oncogene family	11.2233	10.8152	1.32692
1438031_AT	ras, guanyl releasing protein 3	6.84792	4.57383	4.83693
1427582_AT	fibroblast growth factor 6	3.01589	5.61369	-6.05361
1449283_A_AT	mitogen-activated protein kinase 12	9.00084	8.27147	1.65792
1442949_AT	nuclear factor of kappa light chain gene enhancer in b-cells 1, p105	2.47938	4.20891	-3.31622
1422999_AT	mitogen-activated protein kinase kinase kinase 14	7.80812	8.24107	-1.34999
1451927_A_AT	mitogen activated protein kinase 14	5.27681	7.39961	-4.35537
1426898_AT	mitogen-activated protein kinase kinase kinase 7 interacting protein 1	7.47571	8.05624	-1.49541
1457182_AT	mitogen activated protein kinase kinase 7	5.81088	3.35828	5.47403
JAK-STAT signaling pathway (genes):				
1416977_AT	signal transducing adaptor molecule (sh3 domain and itam motif) 2	6.92884	7.45337	-1.43847
1450564_X_AT	interferon alpha family, gene 1	4.42874	6.4487	-4.05571
1450565_AT	interleukin 9	4.56361	5.86908	-2.47165
1450033_A_AT	signal transducer and activator of transcription 1	8.81717	9.12516	-1.23799
1442890_AT	suppressor of cytokine signaling 5	7.31111	5.61024	3.25096

1426587_A_AT	signal transducer and activator of transcription 3	10.6534	11.3806	-1.65536
1415874_AT	sprouty homolog 1 (drosophila)	10.0444	9.41377	1.54826
1449026_AT	interferon (alpha and beta) receptor 1	9.33899	9.76613	-1.34456
1448681_AT	interleukin 15 receptor, alpha chain	9.80652	8.85758	1.93045
1425750_A_AT	janus kinase 3	7.15899	7.96689	-1.75067
1422078_AT	thymoma viral proto-oncogene 3	6.59676	7.33573	-1.66899
1450297_AT	interleukin 6	2.73611	5.31157	-5.96061
1438492_AT	suppressor of cytokine signaling 7	6.73446	4.60217	4.38414
1440867_AT	sprouty homolog 4 (drosophila)	7.8384	7.06622	1.70785
1437808_X_AT, 1456173_AT	interleukin 10 receptor, alpha	6.83032	6.08398	1.67754
1450207_AT	leukemia inhibitory factor receptor	6.59455	6.13913	1.37118
1427165_AT, 1451775_S_AT	interleukin 13 receptor, alpha 1	7.8582	8.42551	-1.48177
1433804_AT	janus kinase 1	7.18736	8.07229	-1.84667

Suppl. Table 3: List of genes in insulin signaling pathway altered in all three diet groups compared to the BR diet group in muscle (step-up FDR-corrected $p \leq 0.05$)

Insulin signaling pathways, muscle		Mean (BR)	Mean (low CA)	Fold Change (BR/low CA)
Low Ca/BCAA/ACEi vs. BR (FDR Corrected sign. Genes)		**(log base 2)**		
1423828_AT	fatty acid synthase	10.7655	11.9248	**-2.23346**
1447635_AT	protein kinase, camp dependent regulatory, type i, alpha	7.69327	5.1575	**5.79889**
1453069_AT	phosphatidylinositol 3-kinase, catalytic, beta polypeptide	5.1568	7.60749	**-5.46678**
1421146_AT	rap guanine nucleotide exchange factor (gef) 1	8.44919	7.14477	**2.46985**
1445693_AT	v-raf murine sarcoma 3611 viral oncogene homolog	5.10713	7.12827	**-4.05902**
1453281_AT	phosphatidylinositol 3-kinase catalytic delta polypeptide	8.76758	8.13474	**1.55061**
1439989_AT	tuberous sclerosis 1	6.65765	3.65317	**8.02488**
1446185_AT	fk506 binding protein 12-rapamycin associated protein 1	7.97048	6.33475	**3.10744**
1439931_AT	glycogen synthase kinase 3 beta	5.43039	7.50061	**-4.19949**
1419568_AT	mitogen activated protein kinase 1	9.26914	8.58738	**1.6041**
1421275_S_AT	suppressor of cytokine signaling 4	5.9779	3.19968	**6.86003**
1457562_AT	ribosomal protein s6 kinase, polypeptide 1	4.27528	7.28731	**-8.06699**
1460336_AT	peroxisome proliferative activated receptor, gamma, coactivator 1 alpha	9.83756	8.90874	**1.90372**
1433694_AT	phosphodiesterase 3b, cgmp-inhibited	9.73867	10.239	**-1.41449**
1443436_AT	mitogen activated protein kinase kinase 2	8.17892	6.25341	**3.79869**
1442044_AT	ribosomal protein s6	6.70554	4.72864	**3.93645**
1444831_AT	thymoma viral proto-oncogene 3	7.79715	5.0313	**6.80146**
1425514_AT	phosphatidylinositol 3-kinase, regulatory subunit, polypeptide 1 (p85 alpha)	7.83016	8.52621	**-1.62007**
1442147_AT	riken cdna 6330505c01 gene	6.11827	3.40306	**6.56692**
1426710_AT	calmodulin 1	10.8448	10.3555	**1.40374**
1430634_A_AT	phosphofructokinase, platelet	6.09196	4.23833	**3.6141**
1420841_AT	protein tyrosine phosphatase, receptor type, f	5.55126	7.51591	**-3.90318**

Ca depleted vs. BR (FDR Corrected sign. Genes)		Mean (BR)	Mean (Ca depl.)	Fold Change (BR/Ca depl.)
1423828_AT	fatty acid synthase	10.7655	12.0453	**-2.42808**
1422108_AT	protein phosphatase 1, regulatory (inhibitor) subunit 3a	8.08744	6.73376	**2.55563**
1440856_AT	mitogen activated protein kinase 8	9.71473	9.39732	**1.24609**
1437539_AT	protein kinase, amp-activated, alpha 1 catalytic subunit	7.65128	7.17523	**1.39093**
1427006_AT	rap guanine nucleotide exchange factor (gef) 1	10.3813	10.8088	**-1.34494**
1447940_A_AT	braf transforming gene	5.49872	7.37856	**-3.68034**
1421897_AT	elk1, member of ets oncogene family	6.99614	4.30068	**6.47763**
1453281_AT	phosphatidylinositol 3-kinase catalytic delta polypeptide	8.76758	8.02663	**1.67127**
1422043_AT, 1455252_AT	tuberous sclerosis 1	10.1581	10.7441	**-1.50108**

1439931_AT	glycogen synthase kinase 3 beta	5.43039	7.55043	**-4.34706**
1417308_AT	pyruvate kinase, muscle	14.5938	14.8747	**-1.21493**
1424132_AT	harvey rat sarcoma virus oncogene 1	10.0517	9.80534	**1.18617**
1433504_AT, 1445397_AT	brain glycogen phosphorylase	4.7391	6.60962	-3.65665
1443436_AT	mitogen activated protein kinase kinase 2	8.17892	7.61227	**1.48107**
1444831_AT	thymoma viral proto-oncogene 3	7.79715	5.37593	**5.35622**
1433691_AT	protein phosphatase 1, regulatory (inhibitor) subunit 3c	15.0011	15.4731	**-1.38706**
1422414_A_AT	calmodulin 1	12.8256	12.4328	**1.3129**
1416069_AT	phosphofructokinase, platelet	8.78388	7.85036	**1.90993**
1429434_AT	phosphatidylinositol 3-kinase, catalytic, alpha polypeptide	8.38313	7.65034	**1.66186**

NFDM vs. BR (FDR Corrected sign. Genes)		**Mean (BR)**	**Mean (NFDM)**	**Fold Change (BR/NFDM)**
1423828_AT	fatty acid synthase	10.7655	11.6807	**-1.88581**
1425604_AT	v-crk sarcoma virus ct10 oncogene homolog (avian)-like	3.64653	6.37529	**-6.62884**
1441476_AT	suppressor of cytokine signaling 2	5.91189	7.71666	**-3.49372**
1438164_X_AT	flotillin 2	9.94438	10.3156	**-1.29343**
1422315_X_AT	phosphorylase kinase gamma 1	12.1868	12.3306	**-1.10479**
1429463_AT	protein kinase, amp-activated, alpha 2 catalytic subunit	12.4988	12.7497	**-1.18995**
1457803_AT	protein kinase, amp-activated, gamma 1 non-catalytic subunit	4.46506	3.1242	**2.53302**
1439931_AT, 1454958_AT	glycogen synthase kinase 3 beta	5.43039	7.41032	**-3.94473**
1423104_AT	insulin receptor substrate 1	11.0837	10.4648	**1.53565**
1443186_AT	pyruvate kinase, muscle	4.6179	6.86393	**-4.74378**
1444480_AT	protein kinase, amp-activated, gamma 3 non-catatlytic subunit	13.0262	13.3445	**-1.2468**
1421324_A_AT, 1424480_S_AT	thymoma viral proto-oncogene 2	10.2967	10.7973	**-1.41483**
1450718_AT	adaptor protein with pleckstrin homology and src	4.16515	7.2041	**-8.21891**
1415974_AT	mitogen activated protein kinase kinase 2	10.7307	11.2635	**-1.44672**
1422407_S_AT	harvey rat sarcoma virus oncogene 1	11.166	11.5517	**-1.3065**
1433504_AT	brain glycogen phosphorylase	8.12467	8.91569	**-1.7303**
1425711_A_AT, 1440950_AT	thymoma viral proto-oncogene 1	8.0511	5.99692	**4.1531**
1434518_AT	riken cdna 6330505c01 gene	8.35457	8.87864	**-1.43801**
1416195_AT	putative phosphatase	9.95815	10.3197	**-1.28478**
1454060_A_AT	v-ki-ras2 kirsten rat sarcoma viral oncogene homolog	9.09361	9.82235	**-1.65718**
1417365_A_AT, 1438825_AT, 1455571_X_AT	calmodulin 1	4.07028	6.04404	**-3.9279**

Suppl. Table 4: List of genes in VEGF signaling pathway altered in all three diet groups compared to the BR diet group in muscle (step-up FDR-corrected $p \leq 0.05$).

VEGF signaling pathways, muscle Low Ca/BCAA/ACEi vs. BR (FDR Corrected sign. Genes)		Mean (BR) (log base 2)	Mean (low CA) (log base 2)	Fold Change (BR/low CA) (log base 2)
1453069_AT	phosphatidylinositol 3-kinase, catalytic, beta polypeptide	5.1568	7.60749	**-5.46678**
1426401_AT	protein phosphatase 3, catalytic subunit, alpha isoform	11.9474	12.2035	**-1.19423**
1452026_A_AT	phospholipase a2, group xiia	9.52965	8.52051	**2.01272**
1440208_AT	ras-related c3 botulinum substrate 2	7.60771	6.65931	**1.92974**
1451596_A_AT	sphingosine kinase 1	3.97605	6.87431	**-7.45528**
1453281_AT	phosphatidylinositol 3-kinase catalytic delta polypeptide	8.76758	8.13474	**1.55061**
1417814_AT	phospholipase a2, group v	5.38723	3.78561	**3.03485**
1419568_AT	mitogen activated protein kinase 1	9.26914	8.58738	**1.6041**
1440426_AT	nuclear factor of activated t-cells, cytoplasmic, calcineurin-dependent 2	7.88457	5.63267	**4.7631**
1443436_AT	mitogen activated protein kinase kinase 2	8.17892	6.25341	**3.79869**
1444831_AT	thymoma viral proto-oncogene 3	7.79715	5.0313	**6.80146**
1425514_AT	phosphatidylinositol 3-kinase, regulatory subunit, polypeptide 1 (p85 alpha)	7.83016	8.52621	**-1.62007**
1431278_S_AT	phospholipase a2, group vi	4.40704	7.42211	**-8.08403**
1426104_AT	mitogen activated protein kinase 14	6.80826	3.16278	**12.5141**
1423380_S_AT	nuclear factor of activated t-cells, cytoplasmic, calcineurin-dependent 4	6.74705	8.45292	**-3.26224**

Ca depleted vs. BR (FDR Corrected sign. Genes)		Mean (BR) (log base 2)	Mean (Ca depl) (log base 2)	Fold Change (BR/Ca depl) (log base 2)
1423478_AT, 1460419_A_AT	protein kinase c, beta 1	4.34773	6.29499	**-3.85641**
1440208_AT	ras-related c3 botulinum substrate 2	7.60771	5.10076	**5.68418**
1451596_A_AT	sphingosine kinase 1	3.97605	6.35566	**-5.20395**
1453281_AT	phosphatidylinositol 3-kinase catalytic delta polypeptide	8.76758	8.02663	**1.67127**
1417814_AT	phospholipase a2, group v	5.38723	4.0432	**2.53859**
1453914_AT	heat shock protein 1	3.49707	6.45746	**-7.78334**
1418987_AT	phospholipase a2, group iid	8.08689	7.09444	**1.98955**
1443436_AT	mitogen activated protein kinase kinase 2	8.17892	7.61227	**1.48107**
1424132_AT	harvey rat sarcoma virus oncogene 1	10.0517	9.80534	**1.18617**
1444831_AT	thymoma viral proto-oncogene 3	7.79715	5.37593	**5.35622**
1416703_AT	mitogen activated protein kinase 14	11.4772	11.7312	**-1.19245**
1429434_AT	phosphatidylinositol 3-kinase, catalytic, alpha polypeptide	8.38313	7.65034	**1.66186**
1438999_A_AT	nuclear factor of activated t-cells 5	8.75395	7.71459	**2.05531**

NFDM vs. BR (FDR Corrected sign. Genes)		Mean (BR)	Mean (NFDM)	Fold Change (BR/NFDM)
1448558_A_AT	phospholipase a2, group iva (cytosolic, calcium-dependent)	8.24018	7.28951	**1.93277**
1440208_AT	ras-related c3 botulinum substrate 2	7.60771	5.70503	**3.73907**
1447084_AT	nuclear factor of activated t-cells, cytoplasmic, calcineurin-dependent 1	7.30594	6.09695	**2.31175**
1453914_AT	heat shock protein 1	3.49707	6.92506	**-10.7629**
1425990_A_AT	nuclear factor of activated t-cells, cytoplasmic, calcineurin-dependent 2	6.7824	7.4935	**-1.63705**
1421324_A_AT, 1424480_S_AT	thymoma viral proto-oncogene 2	10.2967	10.7973	**-1.41483**
1426085_A_AT	paxillin	6.01678	8.32559	**-4.95475**
1425711_A_AT, 1440950_AT	thymoma viral proto-oncogene 1	8.0511	5.99692	**4.1531**
1415974_AT	mitogen activated protein kinase kinase 2	10.7307	11.2635	**-1.44672**
1422407_S_AT	harvey rat sarcoma virus oncogene 1	11.166	11.5517	**-1.3065**
1431278_S_AT	phospholipase a2, group vi	4.40704	6.91574	**-5.69107**
1454060_A_AT	v-ki-ras2 kirsten rat sarcoma viral oncogene homolog	9.09361	9.82235	**-1.65718**
1420743_A_AT	protein phosphatase 3, catalytic subunit, gamma isoform	9.42015	10.0058	**-1.50076**
1416703_AT	mitogen activated protein kinase 14	11.4772	11.7035	**-1.1698**
1432821_AT	nuclear factor of activated t-cells, cytoplasmic, calcineurin-dependent 4	3.61167	5.19948	**-3.00593**

Suppl. Table 5: List of genes in B-cell receptor signaling pathway altered in all three diet groups compared to the BR diet group in muscle (step-up FDR-corrected $p \leq 0.05$)

B cell receptor signaling pathways, muscle Low Ca/BCAA/ACEi vs. BR (FDR Corrected sign. Genes)		Mean (BR) (log base 2)	Mean (low Ca)	Fold Change (BR/low Ca)
1456694_X_AT	protein tyrosine phosphatase, non-receptor type 6	9.7332	8.98414	**1.6807**
1453069_AT	phosphatidylinositol 3-kinase, catalytic, beta polypeptide	5.1568	7.60749	**-5.46678**
1426401_AT	protein phosphatase 3, catalytic subunit, alpha isoform	11.9474	12.2035	**-1.19423**
1440208_AT	ras-related c3 botulinum substrate 2	7.60771	6.65931	**1.92974**
1425902_A_AT	nuclear factor of kappa light polypeptide gene enhancer in b-cells 2, p49/p100	5.56488	7.14272	**-2.98522**
1444831_AT	thymoma viral proto-oncogene 3	7.79715	5.0313	**6.80146**
1425514_AT	phosphatidylinositol 3-kinase, regulatory subunit, polypeptide 1 (p85 alpha)	7.83016	8.52621	**-1.62007**
1453281_AT	phosphatidylinositol 3-kinase catalytic delta polypeptide	8.76758	8.13474	**1.55061**
1425797_A_AT	spleen tyrosine kinase	7.5153	4.06872	**10.9025**
1439931_AT	glycogen synthase kinase 3 beta	5.43039	7.50061	**-4.19949**
1423380_S_AT	nuclear factor of activated t-cells, cytoplasmic, calcineurin-dependent 4	6.74705	8.45292	**-3.26224**
1440426_AT	nuclear factor of activated t-cells, cytoplasmic, calcineurin-dependent 2	7.88457	5.63267	**4.7631**

Ca depleted vs. BR (FDR Corrected sign. Genes)		Mean (BR)	Mean (Ca depleted)	Fold Change (BR/Ca depleted)
1423478_AT, 1460419_A_AT	protein kinase c, beta 1	7.12077	7.63148	**-1.42475**
1440208_AT	ras-related c3 botulinum substrate 2	7.60771	5.10076	**5.68418**
1453281_AT	phosphatidylinositol 3-kinase catalytic delta polypeptide	8.76758	8.02663	**1.67127**
1439931_AT	glycogen synthase kinase 3 beta	5.43039	7.55043	**-4.34706**
1456694_X_AT	protein tyrosine phosphatase, non-receptor type 6	9.7332	8.79087	**1.92163**
1435244_AT	vav2 oncogene	5.04971	3.08612	**3.90031**
1435476_A_AT, 1455332_X_AT	fc receptor, igg, low affinity iib	7.81359	8.69101	**-1.83709**
1424132_AT	harvey rat sarcoma virus oncogene 1	10.0517	9.80534	**1.18617**
1444831_AT	thymoma viral proto-oncogene 3	7.79715	5.37593	**5.35622**
1418262_AT	spleen tyrosine kinase	5.03188	7.06925	**-4.10498**
1446718_AT	nuclear factor of kappa light chain gene enhancer in b-cells inhibitor, beta	5.6978	3.65303	**4.12606**
1429434_AT	phosphatidylinositol 3-kinase, catalytic, alpha polypeptide	8.38313	7.65034	**1.66186**
1438999_A_AT	nuclear factor of activated t-cells 5	8.75395	7.71459	**2.05531**

NFDM vs. BR (FDR Corrected sign. Genes)		Mean (BR)	Mean (NFDM)	Fold Change (BR/NFDM)
1420088_AT	nuclear factor of kappa light chain gene enhancer in b-cells inhibitor, alpha	12.3429	12.0147	**1.25539**
1421324_A_AT, 1424480_S_AT	thymoma viral proto-oncogene 2	10.2967	10.7973	**-1.41483**
1435477_S_AT	fc receptor, igg, low affinity iib	9.34774	8.49187	**1.80986**
1422407_S_AT	harvey rat sarcoma virus oncogene 1	11.166	11.5517	**-1.3065**
1425711_A_AT, 1440950_AT	thymoma viral proto-oncogene 1	8.0511	5.99692	**4.1531**
1440208_AT	ras-related c3 botulinum substrate 2	7.60771	5.70503	**3.73907**
1447084_AT	nuclear factor of activated t-cells, cytoplasmic, calcineurin-dependent 1	7.30594	6.09695	**2.31175**
1454060_A_AT	v-ki-ras2 kirsten rat sarcoma viral oncogene homolog	9.09361	9.82235	**-1.65718**
1420743_A_AT	protein phosphatase 3, catalytic subunit, gamma isoform	9.42015	10.0058	**-1.50076**
1439931_AT, 1454958_AT	glycogen synthase kinase 3 beta	10.1668	9.67241	**1.4087**
1432821_AT	nuclear factor of activated t-cells, cytoplasmic, calcineurin-dependent 4	3.61167	5.19948	**-3.00593**
1425990_A_AT	nuclear factor of activated t-cells, cytoplasmic, calcineurin-dependent 2	6.7824	7.4935	**-1.63705**

Suppl. Table 6: List of genes in GnRH signaling pathway altered in all three diet groups compared to the BR diet group in muscle (step-up FDR-corrected $p \leq 0.05$)

GnRH signaling pathways, muscle Low Ca/BCAA/ACEi vs. BR (FDR Corrected sign. Genes)		Mean (BR) (log base 2)	Mean (low CA) (log base 2)	Fold Change (BR/lowCA) (log base 2)
1443540_AT	mitogen activated protein kinase kinase kinase 1	6.3317	5.06658	**2.40348**
1452026_A_AT	phospholipase a2, group xiia	9.52965	8.52051	**2.01272**
1452453_A_AT	calcium/calmodulin-dependent protein kinase ii alpha	7.54691	5.2291	**4.98573**
1424932_AT	epidermal growth factor receptor	8.33145	9.02714	**-1.61966**
1417814_AT	phospholipase a2, group v	5.38723	3.78561	**3.03485**
1434653_AT	ptk2 protein tyrosine kinase 2 beta	7.56944	5.29283	**4.84538**
1442679_AT	mitogen activated protein kinase kinase 4	7.01674	8.27152	**-2.3863**
1416572_AT, 1440920_AT	matrix metallopeptidase 14 (membrane-inserted)	8.5956	7.73907	**1.81068**
1419568_AT	mitogen activated protein kinase 1	9.26914	8.58738	**1.6041**
1425739_AT	phospholipase d1	7.28787	4.07639	**9.26297**
1443436_AT	mitogen activated protein kinase kinase 2	8.17892	6.25341	**3.79869**
1455729_AT	guanine nucleotide binding protein, alpha q polypeptide	9.01062	9.98417	**-1.96366**
1431278_S_AT	phospholipase a2, group vi	4.40704	7.42211	**-8.08403**
1423941_AT	calcium/calmodulin-dependent protein kinase ii gamma	11.4742	11.9042	**-1.34725**
1426710_AT	calmodulin 1	10.8448	10.3555	**1.40374**
1426104_AT	mitogen activated protein kinase 14	6.80826	3.16278	**12.5141**
1421416_AT	mitogen activated protein kinase kinase 7	8.19301	7.31861	**1.83324**
1449955_AT	calcium channel, voltage-dependent, alpha 1f subunit	5.50168	7.93108	**-5.38671**

Ca depleted vs. BR (FDR Corrected sign. Genes)		Mean (BR) (log base 2)	Mean (Ca depl.) (log base 2)	Fold Change (BR/Ca depl.) (log base 2)
1417279_AT	inositol 1,4,5-triphosphate receptor 1	10.6323	10.1688	**1.37882**
1421297_A_AT	calcium channel, voltage-dependent, l type, alpha 1c subunit	6.72737	4.49144	**4.71068**
1440856_AT	mitogen activated protein kinase 8	9.71473	9.39732	**1.24609**
1423478_AT, 1460419_A_AT	protein kinase c, beta 1	7.12077	7.63148	**-1.42475**
1421897_AT	elk1, member of ets oncogene family	6.99614	4.30068	**6.47763**
1417814_AT	phospholipase a2, group v	5.38723	4.0432	**2.53859**
1418987_AT	phospholipase a2, group iid	8.08689	7.09444	**1.98955**
1416572_AT, 1440920_AT	matrix metallopeptidase 14 (membrane-inserted)	8.5956	7.87546	**1.64733**
1437113_S_AT	phospholipase d1	8.27096	9.02738	**-1.68929**
1424132_AT	harvey rat sarcoma virus oncogene 1	10.0517	9.80534	**1.18617**
1443436_AT	mitogen activated protein kinase kinase 2	8.17892	7.61227	**1.48107**
1445112_AT	adenylate cyclase 1	8.08973	6.95162	**2.20093**
1422414_A_AT	calmodulin 1	12.8256	12.4328	**1.3129**
1416703_AT	mitogen activated protein kinase 14	11.4772	11.7312	**-1.19245**
1451714_A_AT	mitogen activated protein kinase kinase 3	12.3122	12.7175	**-1.32437**
1439364_A_AT	matrix metallopeptidase 2	10.6965	10.1032	**1.50874**

NFDM vs. BR (FDR Corrected sign. Genes)		Mean (BR)	Mean (NFDM)	Fold Change (BR/NFDM)
1448558_A_AT	phospholipase a2, group iva (cytosolic, calcium-dependent)	8.24018	7.28951	**1.93277**
1442707_AT	calcium/calmodulin-dependent protein kinase ii alpha	8.98407	9.9863	**-2.0031**
1434653_AT, 1442437_AT	ptk2 protein tyrosine kinase 2 beta	4.79118	2.87368	**3.77769**
1422847_A_AT	protein kinase c, delta	9.025	9.44725	**-1.34002**
1437112_AT	phospholipase d1	4.48281	6.93238	**-5.46254**
1415974_AT	mitogen activated protein kinase kinase 2	10.7307	11.2635	**-1.44672**
1422407_S_AT	harvey rat sarcoma virus oncogene 1	11.166	11.5517	**-1.3065**
1431278_S_AT	phospholipase a2, group vi	4.40704	6.91574	**-5.69107**
1423941_AT	calcium/calmodulin-dependent protein kinase ii gamma	11.4742	12.1699	**-1.6197**
1454060_A_AT	v-ki-ras2 kirsten rat sarcoma viral oncogene homolog	9.09361	9.82235	**-1.65718**
1441531_AT	phospholipase c, beta 4	5.98812	7.60448	**-3.066**
1417365_A_AT, 1438825_AT, 1455571_X_AT	calmodulin 1	4.07028	6.04404	**-3.9279**
1450186_S_AT	gnas (guanine nucleotide binding protein, alpha stimulating) complex locus	14.7867	15.2217	**-1.35187**
1416703_AT	mitogen activated protein kinase 14	11.4772	11.7035	**-1.1698**
1451714_A_AT	mitogen activated protein kinase kinase 3	12.3122	12.5296	**-1.16263**