

**Fig. 1S.** Representative 2D gels of muscle samples from vastus lateralis muscle used for proteomic analysis (subject group A). Thirteen cm IPG gels strips, pH 3-11 NL (non linear), were used in the first dimension and SDS gels (15% T, 2.5% C) were used in the second dimension. The protein spots found to be differentially expressed are circled and numbered. The numbers enable to identify the spots in Table 1.

**Fig. 2S.** The effect of 24 days BR on the content in representative metabolic enzymes (lactate dehydrogenase, aldolase A, triosephosphate isomerase) and antioxidant defense systems (SOD1, peroxiredoxin 3 and Hsp70) in vastus lateralis muscle of subject group B. 24 d BR = post-24d BR. \* significantly different from pre-BR.

**Table 1S.** Differentially expressed proteins and related changes in vastus lateralis muscles (subject group A) following 8 and 35 d BR compared to pre-BR. In the table are showed: the spot number corresponding to the number reported in Fig.2; the protein name; the accession number corresponding to Expasy; the estimated pI in 2D gel; the estimated Molecular Weight in 2D gel; the related fold changes of proteins following 8 and 35 days of BR are expressed in average ratio of changes relative to pre-BR; MOWSE score.

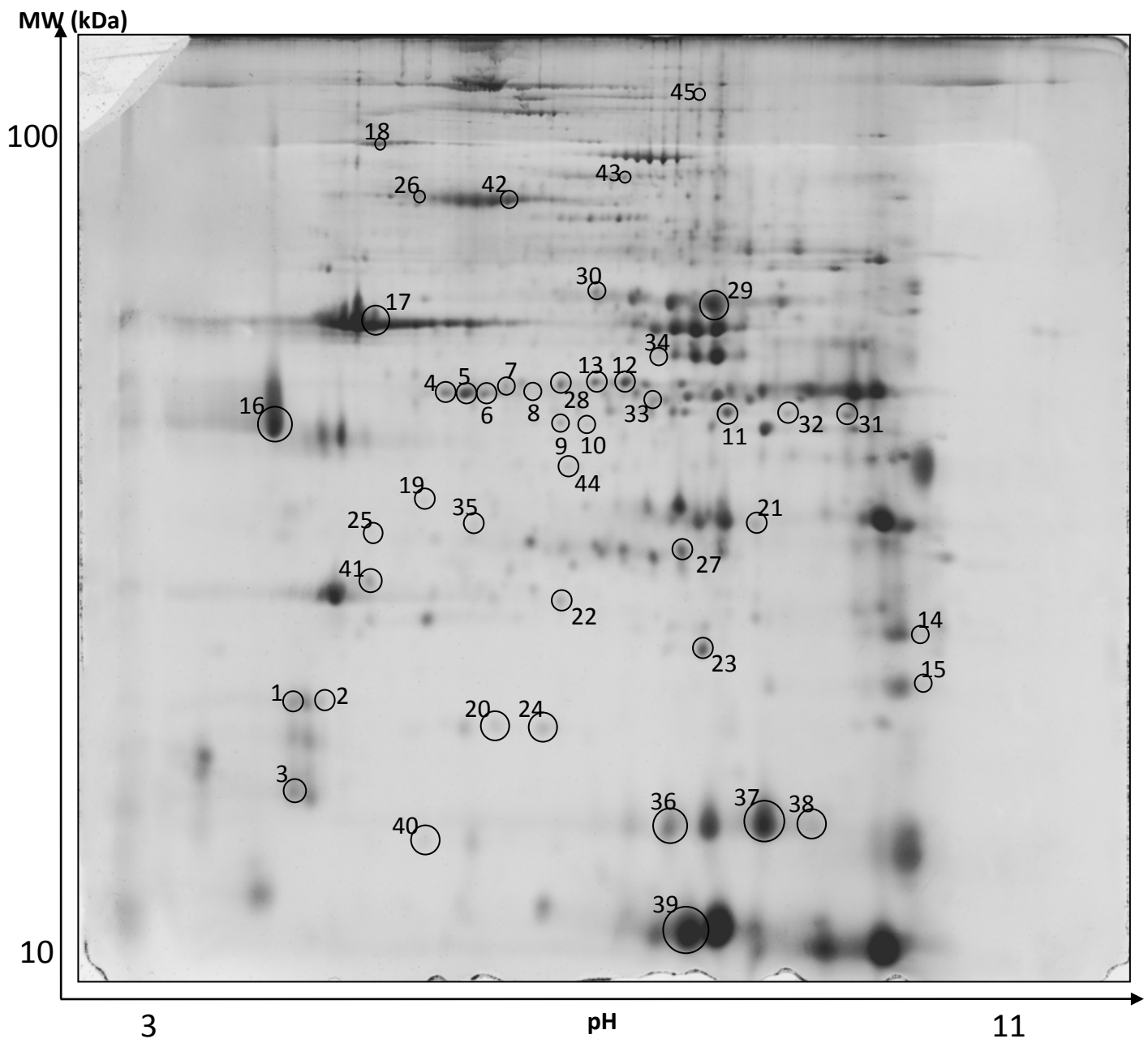


Fig. S1

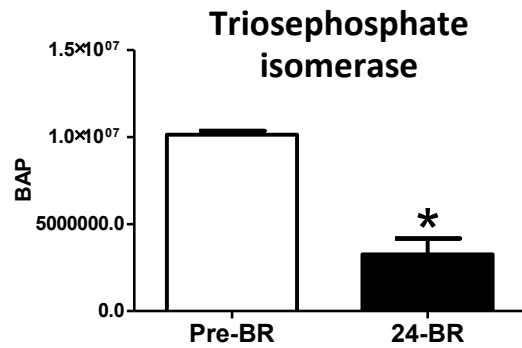
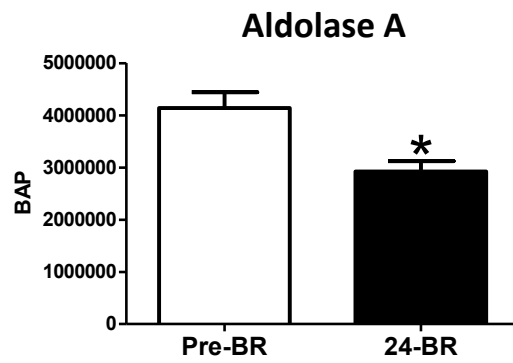
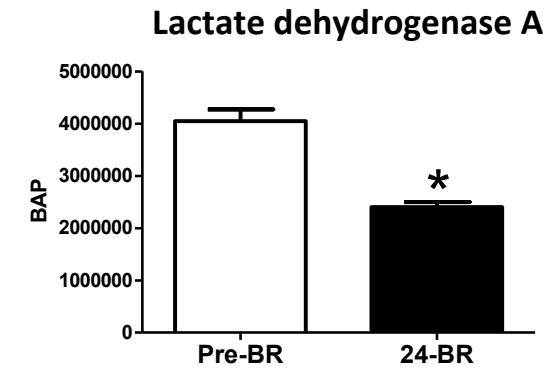
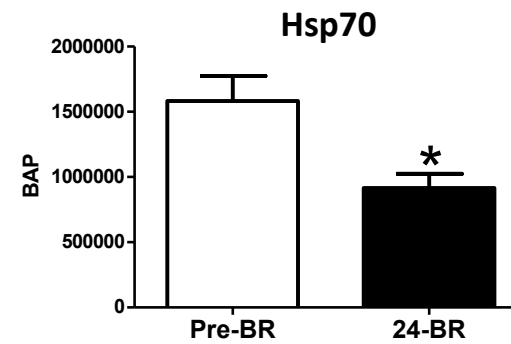
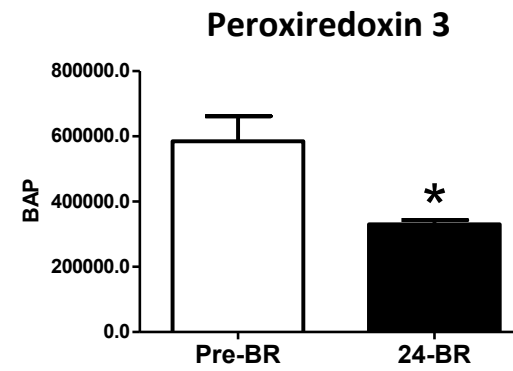
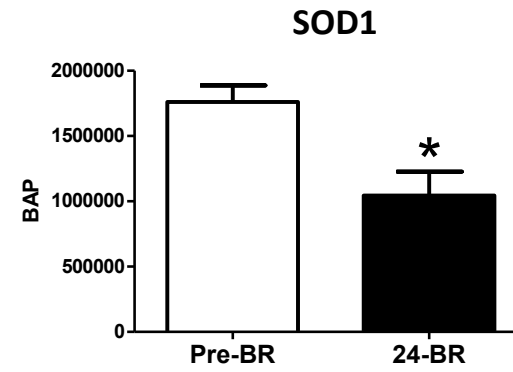
**A****B**

Fig. S2

**Table 1S.** Differentially expressed proteins and related changes in vastus lateralis muscles (subject group A) following 8 and 35 d BR compared to pre-BR. In the table are showed: the spot number corresponding to the number reported in Fig.2; the protein name; the accession number corresponding to Expasy; the estimated pI in 2D gel; the estimated Molecular Weight in 2D gel; the related fold changes of proteins following 8 and 35 days of BR are expressed in average ratio of changes relative to pre-BR; MOWSE score.

	PROTEINS	Access num.	Estimated pI in 2D gel	Estimated MW in 2D gel	Fold change 8-BR	Fold change 35-BR	score
	<b>MYOFIBRILLAR PROTEINS</b>						
1	MLC-2slow	Q7M2V4	4.92	18777	-1.92	-1.99	91
2	MLC-2slow	Q7M2V4	4.48	18800	-2.26	-1.99	280
3	MLC-2f	Q96A32	4.79	17734	-1.62	-1.12	98
4	Troponin T, slow skeletal muscle	P13805	5.72	36350	-1.98	-2.46	102
5	Troponin T, slow skeletal muscle	P13805	5.8	36350	-1.74	-2.43	300
6	Troponin T, slow skeletal muscle	P13805	5.87	36350	-2.25	-1.38	98
7	Troponin T, slow skeletal muscle	P13805	5.92	36250	1.43	1.49	158
8	Troponin T, slow skeletal muscle	P13805	6.01	36250	1.57	2.46	287
9	Troponin T slow skeletal muscle	P13805	6.18	32979	-2.88	-3.11	166
10	Troponin T, slow skeletal muscle	P13805	6.29	32582	-2.44	-2.51	330
11	Troponin T fast	P45378	6.86	33737	-1.16	-4.74	423
12	Troponin T fast	P45378	6.44	37993	-1.43	-2.62	97
13	Troponin T fast	P45378	6.19	37630	-1.52	-3.37	177
14	Troponin I fast	P48788	9.36	20829	-2.77	-4.27	297
15	Troponin I fast	P48788	9.37	19426	-1.23	-4.15	246
16	Tropomyosin $\alpha$ -chain	P06753	4.68	32818	-1.94	-1.92	221
17	Actin	P68133	5.10	44020	-0.44	-0.87	350
18	$\alpha$ -Actinin 2	P35609	5.31	105007	-1.03	1.34	225
19	Actin alpha cardiac	P68032	5.63	29396	-1.73	-1.367	335
	<b>ANTIOXIDANT DEFENCE SYSTEMS</b>						
20	Cu/Zn superoxide dismutase	P00441	5.82	18822	-1.46	-1.63	320
21	Carbonic anhydrase III	P07451	7.06	29369	-1.82	-3.08	390

22	Peroxiredoxin 3	P30048	6.19	22942	-1.53	-1.32	247
23	$\alpha$ - $\beta$ crystallin	P02511	6.76	20222	-2.00	-1.77	588
24	HSP B6	O14558	6.14	18742	-1.45	-1.92	114
25	HspB1	P04792	5.29	28811	-3.43	-1.65	423
26	Hsp 70kDa	P48723	5.52	84418	-2.31	-2.17	1414
	<b>ENERGY PRODUCTION SYSTEMS</b>						
	<b>Glycolytic enzymes</b>						
27	Triosephosphate isomerase	P60174	6.69	26235	-1.61	-2.18	89
28	Beta enolase	P13929	6.8	53073	-2.98	-1.87	164
29	Beta enolase	P13929	6.8	53073	1.90	-1.4	148
30	Beta enolase	P13929	6.32	55166	-1.94	-1.2	174
31	Lactate dehydrogenase chain A	P00338	8.39	33737	-2.07	-2.31	268
32	Aldolase A	P04075	7.39	33737	-2.04	-2.03	263
	<b>Oxidative enzymes</b>						
33	Malate dehydrogenase	P40925	6.57	36050	-2.29	-3.62	267
34	Creatin kinase	P06732	6.56	43260	-2.46	-1.10	132
35	Guanidinoacetate N-methyltransferase	Q14353	5.85	29140	1.45	1.42	100
	<b>TRANSPORT PROTEINS</b>						
36	Myoglobin	P02144	6.70	17179	-1.26	-2.35	494
37	Myoglobin	P02144	7.14	17150	-1.33	-2.54	385
38	Myoglobin	P02144	7.94	17152	-2.19	1.27	342
39	Hemoglobin subunit beta	P68871	6.71	16460	-1.41	-1.87	226
40	Fatty acid-binding protein	Q6IBD7	5.50	16900	-1.52	-1.09	81
41	Apolipoprotein chain A	P02647	5.28	23105	-2.37	-2.17	208
42	Serum albumin chain A	P02768	5.9	82118	2.33	1.36	158
43	Serotransferrin	P02787	6.36	91207	2.39	-1.7	112
	<b>OTHER PROTEINS</b>						
44	Proteasome alpha sub isoform 2	P25787	6.25	30575	-2.25	-1.52	142
45	Glycogen phosphorylase	P11217	6.78	110870	-1.20	1.84	225