Supplementary Table 1. Participant characteristics, resistance exercise training details and individual study outcomes.

	Subject Details			Resistance Exercise Training Details			Performance		Body Composition Outcomes				
Author and Year	**Age**	**Sex**	**Training Status**	**Length (wk)**	**Frequency (d/wk)**	**Sets x Reps or %RM**	**1RM**	**MVC**	**Mass**	**FFM**	**FM**	**Fibre CSA**	**Mid-Femur CSA**
Andersen 2005 (16)	23	M	UT	14	3	3-4 x 4-15		→				↑	
Antonio 2014 (18)	24	M (29) F (11)	T	8	?	?			→	→	→		
Antonio 2015 (17)	24	M (37) F (11)	T	8	5	3 x 5-15	→		↓	→	↓		
Arazi 2011 (19)	22	M	T	8	3	3 x 8	↑		↑				
Arnason 2013 (20)	74	M (67) F (94)	UT	12	3	3 x 6-8		→		→			
Babault 2015 (whey; 22)	22	M	UT	12	3	2-5 x 5-15	→	→					
Babault 2015 (pea; 22)	22	M	UT	12	3	2-5 x 5-15	→	→					
Babault 2014 (milk; 21)	22	M	UT	10	3	3-5 x 6-20	→		→				
Babault 2014 (casein; 21)	22	M	UT	10	3	3-5 x 6-20	→		→				
Bemben 2010 (23)	57	M	UT	14	3	3 x 8	→						
Brown 2004 (whey; 24)	21	M	T	9	?	3 x 4-6				↑			
Brown 2004 (soy; 24)	21	M	T	9	?	3 x 4-6				↑			
Bunout 2004 (25)	74	M (14) F (33)	UT	52	2	3-10 x 10-15		→		→	→		
Burke 2001 (26)	?	M	T	6	4	4-5 x 6-12	→	↑	↑	↑	→		
Campbell 1995 (27)	65	M (8) F (4)	UT	6	3	3 x 80%			→	→	→	→	→
Candow 2006 (whey; 28)	24	M (9) F (18)	UT	6	4	4-5 x 6-12	↑			↑	→		
Candow 2006 (soy; 28)	23	M (9) F (18)	UT	6	4	4-5 x 6-12	↑			↑	→		
Candow 2006a (pre-ex; 29)	63	M	UT	12	3	3 x 10	→			→			
Candow 2006a (post-ex; 29)	67	M	UT	12	3	3 x 10	→			→			
Carter 2005 (30)	57	M	UT	16	3	3 x 8		→		→			→
Coburn 2006 (31)	22	M	UT	8	3	3-5 x 80%	↑		→	→	→		→
Cribb 2007 (32)	24	M	T	11	?	?	↑		→	→	→	↑	
Daly 2014 (33)	73	F	UT	16	2	3 x 8-12	↑			↑	→		→
Deibert 2011 (34)	56	M	UT	12	2	? x 10-25		↑	→	↑	→		
Eliot 2008 (35)	?	M	?	14	3	3 x 8			→	→	→		
Erksine 2012 (36)	23	M	UT	12	3	2-3 x 8-10	→	→					
Farup 2014 (37)	24	M	UT	12	3	6-12 x 6-15		→					
Hartman 2007 (milk; 38)	?	M	UT	12	5	2-4 x 4-12	→		→	↑	↓	↑	
Hartman 2007 (soy; 38)	?	M	UT	12	5	2-4 x 4-12	→		→	→	→	↑	
Herda 2013 (39)	21	M	UT	8	3	1-5 x 80%	→		→	→			→
Hoffman 2007 (40)	21	M	T	12	4	2-5 x 3-10	↑		→	→			
Hoffman 2009 (morning + night; 41)	20	M	T	10	4	2-4 x 4-10	→		→	→			
Hoffman 2009 (pre- + post-ex; 41)	20	M	T	10	4	2-4 x 4-10	→		→	→			
Hulmi 2009 (42)	26	M	UT	21	2	2-5 x 5-20	→	→	→				↑
Hulmi 2009a (44)	25	M	UT	21	2	2-5 x 5-20			→			→	
Hulmi 2015 (PRO; 43)	34	M	UT	12	2 or 3	2-5 x 4-12	→	→		→	↓		→
Hulmi 2015 (PRO+CHO; 43)	34	M	UT	12	2 or 3	2-5 x 4-12	→	→		→	↓		→
Iglay 2009 (45)	61	M (17) F (19)	UT	12	3	2 x 8				→	→	→	

Supplementary Table 1 Continued.

	Subject Details			Resistance Exercise Training Details			Performance		Body Composition Outcomes				
Author and Year	**Age**	**Sex**	**Training Status**	**Length (wk)**	**Frequency (d/wk)**	**Sets x Reps or %RM**	**1RM**	**MVC**	**Mass**	**FFM**	**FM**	**Fibre CSA**	**Mid-Femur CSA**
Josse 2010 (46)	23	F	UT	12	5	2-4 x 4-12	→		→	↑	↓		
Kerksick 2006 (whey + casein; 47)	31	M	T	10	4	3 x 6-10	→		→	↑	→		
Kerksick 2006 (whey + EAA; 47)	31	M	T	10	4	3 x 6-10	→		→	→	→		
Leenders 2013 (men; 48)	70	M	UT	24	3	2-4 x 8-15	→		→	→		→	→
Leenders 2013 (women; 48)	72	F	UT	24	3	2-4 x 8-15	→		→	→		→	→
Mielke 2009 (49)	23	M	UT	8	3	1 or 2 x 6-8	→		→	→	→		
Mitchell 2015 (young; 50)	22	M	UT	12	3	3-4 x 75-85%	→	→				→	
Mitchell 2015 (old; 50)	74	M	UT	12	3	3-4 x 75-85%	→	→				→	
Negro 2014 (51)	24	M (19) F (7)	UT	9	3	4 x 8	→			↑ (BIA)	↓ (BIA)		
Oesen 2015 (52)	82	M (9) F (47)	UT	24	2	1-2 x 15		→					
Olsen 2006 (53)	24	M	?	16	3	3-5 x 6-12		→				→	
Paoli 2015 (55)	25	M	UT	8	2 or 3	2-4 x 6-11		→		→	→		
Paoli 2016 (54)	25	M	UT	8	2 or 3	2-4 x 6-11	→			→	→	→	
Rankin 2004 (56)	21	M	UT	10	3	3-5 x 3-12	→		→	→	→		
Reidy 2016 (whey; 57)	25	M	UT	12	3	3-4 x 8-10	→	→	→	→			→
Reidy 2016 (soy; 57)	25	M	UT	12	3	3-4 x 8-10	→	→	→	→			→
Rozenek 2002 (58)	23	M	UT	8	4	4 x 8	→		→	→	→		
Snijders 2015 (59)	22	M	UT	12	3	2-4 x 8-15	↑		→	→		↑	↑
Verdijk 2009 (60)	72	M	UT	12	3	4 x 8-15	→		→	→		→	→
Volek 2013 (whey; 61)	23	M (37) F (26)	UT	36	2 or 3	3-5 x 3-15	→		→	↑	→		
Volek 2013 (soy; 61)	24	M (37) F (26)	UT	36	2 or 3	3-5 x 3-15	→		→	→	→		
Weisgarber 2012 (62)	24	M (9) F (8)	UT	8	4	3 x 6-10	→		→	→	→		
White 2009 (yogurt; 63)	21	F	UT	8	3	?	→		→	→	→		
White 2009 (whey; 63)	19	F	UT	8	3	?	→		→	→	→		
Willoughby 2007 (64)	19	M	UT	10	4	3 x 6-8	↑		↑	↑	→		

Note: PRO = protein, CHO = carbohydrate, M = male, F = female, T = trained, UT = untrained, 1RM = one-repetition-maximum, MVC = maximum voluntary contraction, FFM = fat-free mass, FM = fat mass, CSA = cross sectional area, → no difference between groups, ↑ protein group increased more than the control group, and ↓ protein group decreased more than the control group.