Supplementary Material

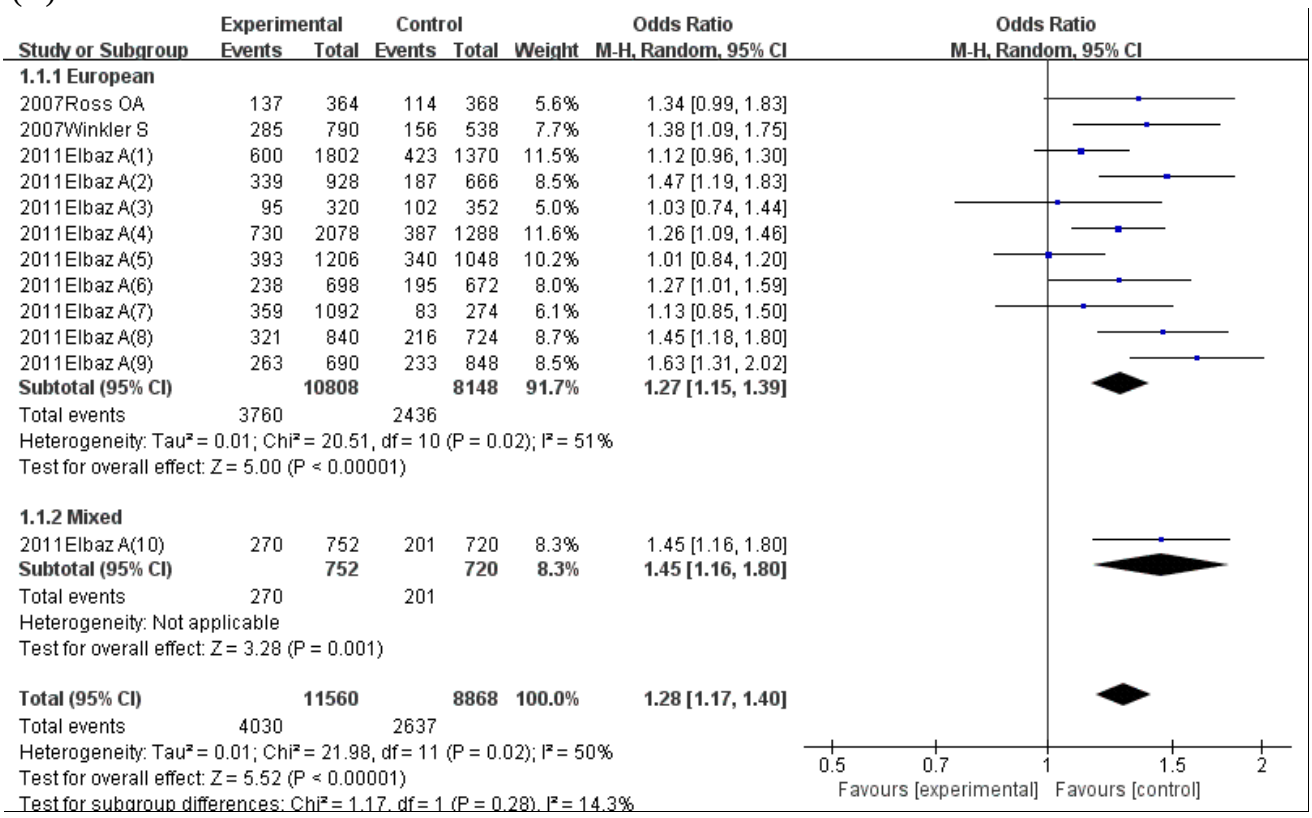
A comprehensive analysis of the association between *SNCA* polymorphisms with the risk of Parkinson's disease

Yuan Zhang[1] †, Li Shu[1] †, Qiying Sun[2,3,4], Hongxu Pan[1], Jifeng Guo[1,3,4,6,7,8], Beisha Tang[1, 2,3,4,5,6,7,8*]

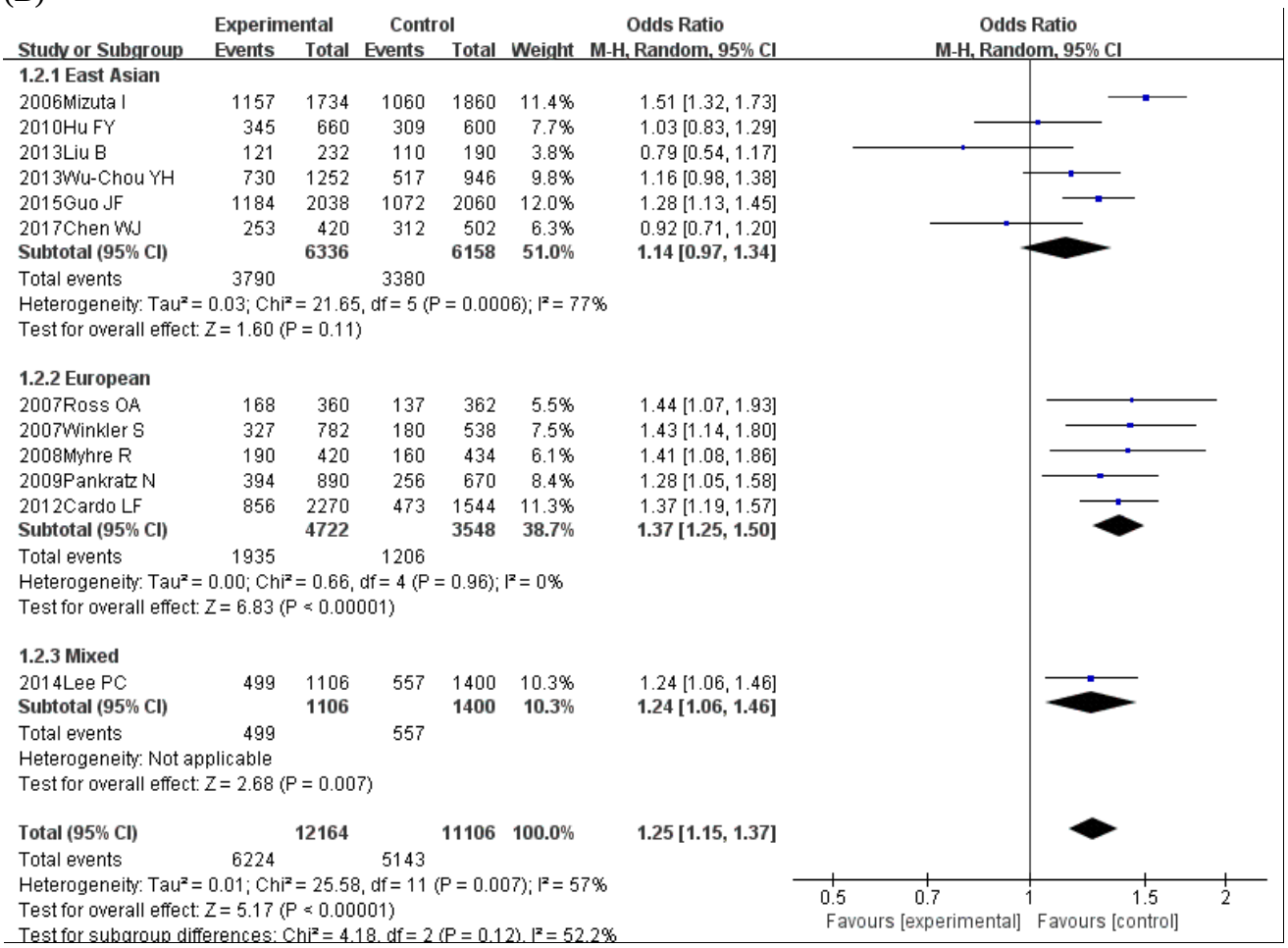
† These authors have contributed equally to this work and are co-first authors.

* **Correspondence: Beisha Tang bstang7398@163.com**

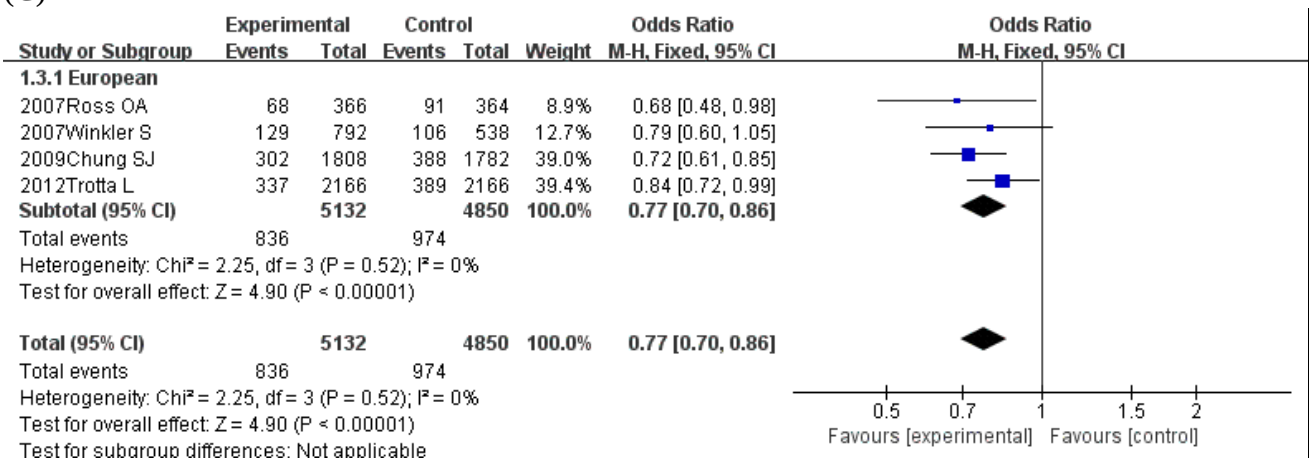
(A)



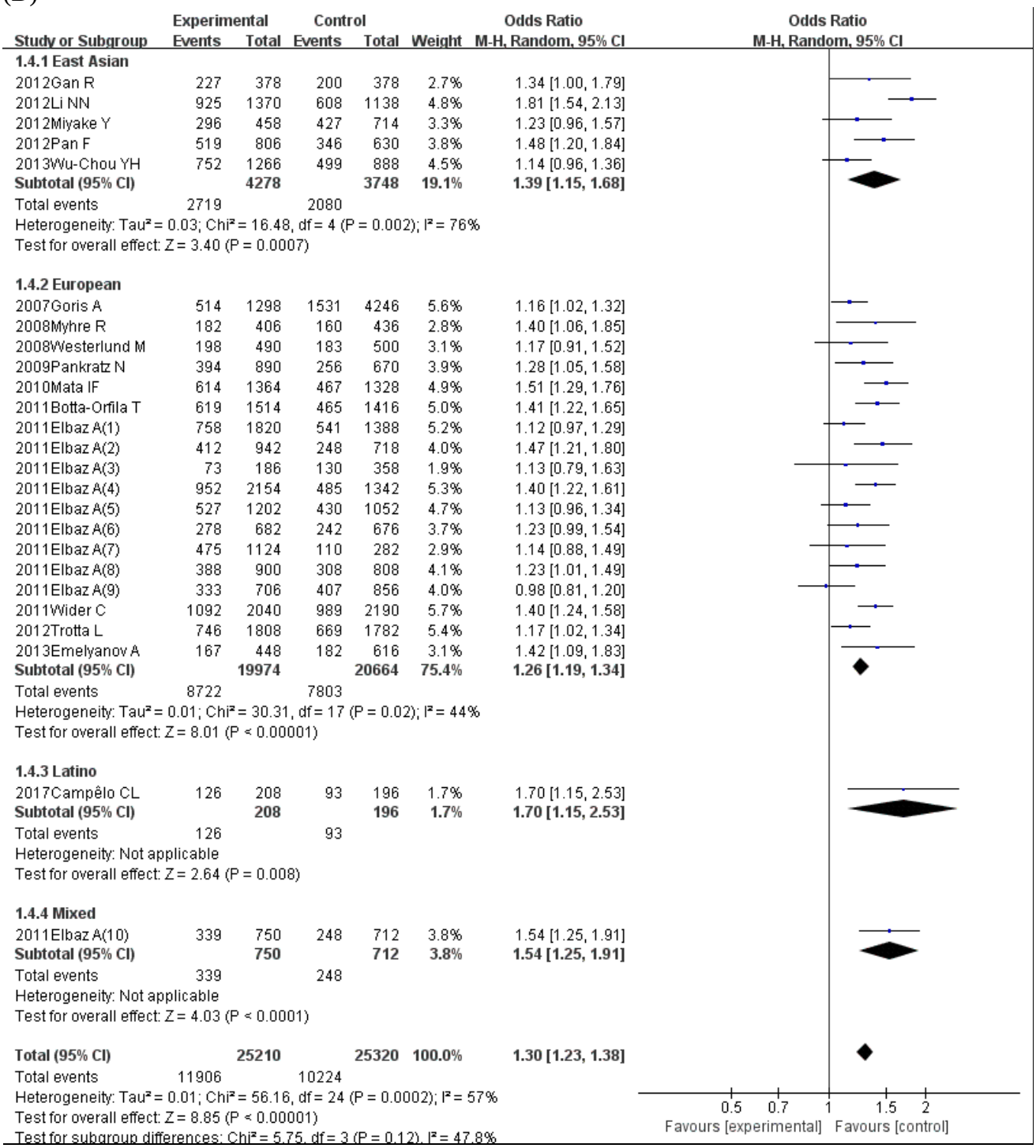
(B)


Experimental
Control
Odds Ratio
Odds Ratio
Study or Subgroup Events Total Events Total Weight M-H, Random, 95% CI
M-H, Random, 95% CI
1.2.1 East Asian
2006Mizuta I 1157 1734 1060 1860 11.4% 1.51 [1.32, 1.73]
2010Hu FY 345 660 309 600 7.7% 1.03 [0.83, 1.29]
2013Liu B 121 232 110 190 3.8% 0.79 [0.54, 1.17]
2013Wu-Chou YH 730 1252 517 946 9.8% 1.16 [0.98, 1.38]
2015Guo JF 1184 2038 1072 2060 12.0% 1.28 [1.13, 1.45]
2017Chen WJ 253 420 312 502 6.3% 0.92 [0.71, 1.20]
Subtotal (95% CI) 6336 6158 51.0% 1.14 [0.97, 1.34]
Total events 3790 3380
Heterogeneity: Tau² = 0.03; Chi² = 21.65, df = 5 (P = 0.0006); I² = 77%
Test for overall effect: Z = 1.60 (P = 0.11)
1.2.2 European
2007Ross OA 168 360 137 362 5.5% 1.44 [1.07, 1.93]
2007Winkler S 327 782 180 538 7.5% 1.43 [1.14, 1.80]
2008Myhre R 190 420 160 434 6.1% 1.41 [1.08, 1.86]
2009Pankratz N 394 890 256 670 8.4% 1.28 [1.05, 1.58]
2012Cardo LF 856 2270 473 1544 11.3% 1.37 [1.19, 1.57]
Subtotal (95% CI) 4722 3548 38.7% 1.37 [1.25, 1.50]
Total events 1935 1206
Heterogeneity: Tau² = 0.00; Chi² = 0.66, df = 4 (P = 0.96); I² = 0%
Test for overall effect: Z = 6.83 (P < 0.00001)
1.2.3 Mixed
2014Lee PC 499 1106 557 1400 10.3% 1.24 [1.06, 1.46]
Subtotal (95% CI) 1106 1400 10.3% 1.24 [1.06, 1.46]
Total events 499 557
Heterogeneity: Not applicable
Test for overall effect: Z = 2.68 (P = 0.007)
Total (95% CI) 12164 11106 100.0% 1.25 [1.15, 1.37]
Total events 6224 5143
Heterogeneity: Tau² = 0.01; Chi² = 25.58, df = 11 (P = 0.007); I² = 57%
Test for overall effect: Z = 5.17 (P < 0.00001)
Test for subgroup differences: Chi² = 4.18, df = 2 (P = 0.12), I² = 52.2%
0.5
0.7
1
1.5
2
Favours [experimental]
Favours [control]

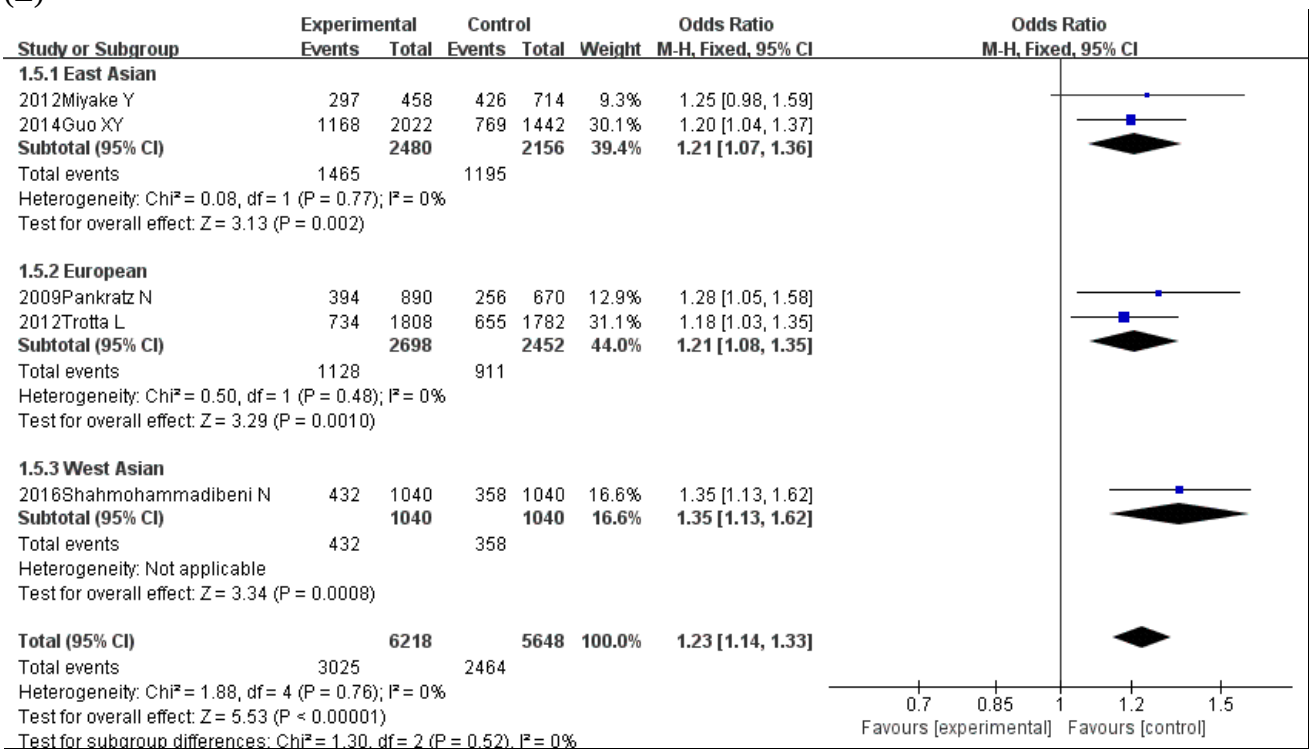
(C)


Experimental
Control
Odds Ratio
Odds Ratio
Study or Subgroup Events Total Events Total Weight M-H, Fixed, 95% CI
M-H, Fixed, 95% CI
1.3.1 European
2007Ross OA 68 366 91 364 8.9% 0.68 [0.48, 0.98]
2007Winkler S 129 792 106 538 12.7% 0.79 [0.60, 1.05]
2009Chung SJ 302 1808 388 1782 39.0% 0.72 [0.61, 0.85]
2012Trotta L 337 2166 389 2166 39.4% 0.84 [0.72, 0.99]
Subtotal (95% CI) 5132 4850 100.0% 0.77 [0.70, 0.86]
Total events 836 974
Heterogeneity: Chi² = 2.25, df = 3 (P = 0.52); I² = 0%
Test for overall effect: Z = 4.90 (P < 0.00001)
Total (95% CI) 5132 4850 100.0% 0.77 [0.70, 0.86]
Total events 836 974
Heterogeneity: Chi² = 2.25, df = 3 (P = 0.52); I² = 0%
Test for overall effect: Z = 4.90 (P < 0.00001)
Test for subgroup differences: Not applicable
0.5
0.7
1
1.5
2
Favours [experimental]
Favours [control]

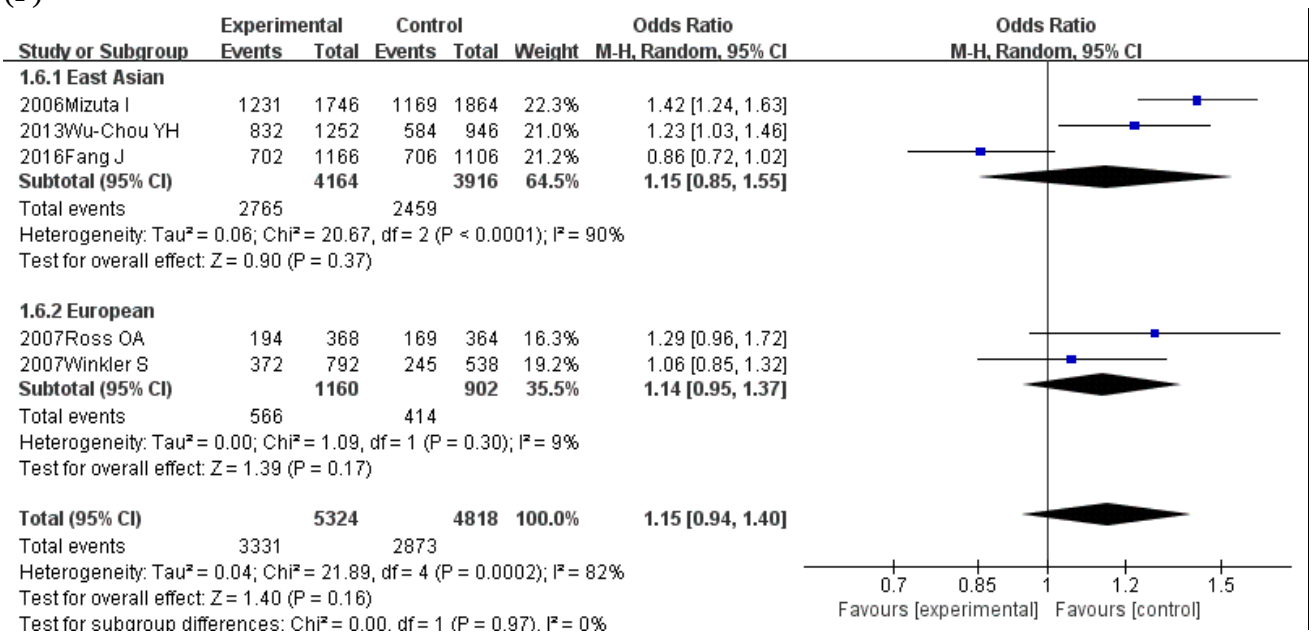
(D)


Experimental
Control
Odds Ratio
Odds Ratio
Study or Subgroup Events Total Events Total Weight M-H, Random, 95% CI
M-H, Random, 95% CI
1.4.1 East Asian
2012Gan R 227 378 200 378 2.7% 1.34 [1.00, 1.79]
2012Li NN 925 1370 608 1138 4.8% 1.81 [1.54, 2.13]
2012Miyake Y 296 458 427 714 3.3% 1.23 [0.96, 1.57]
2012Pan F 519 806 346 630 3.8% 1.48 [1.20, 1.84]
2013Wu-Chou YH 752 1266 499 888 4.5% 1.14 [0.96, 1.36]
Subtotal (95% CI) 4278 3748 19.1% 1.39 [1.15, 1.68]
Total events 2719 2080
Heterogeneity: Tau² = 0.03; Chi² = 16.48, df = 4 (P = 0.002); I² = 76%
Test for overall effect: Z = 3.40 (P = 0.0007)
1.4.2 European
2007Goris A 514 1298 1531 4246 5.6% 1.16 [1.02, 1.32]
2008Myhre R 182 406 160 436 2.8% 1.40 [1.06, 1.85]
2008Westerlund M 198 490 183 500 3.1% 1.17 [0.91, 1.52]
2009Pankratz N 394 890 256 670 3.9% 1.28 [1.05, 1.58]
2010Mata IF 614 1364 467 1328 4.9% 1.51 [1.29, 1.76]
2011Botta-Orfila T 619 1514 465 1416 5.0% 1.41 [1.22, 1.65]
2011Elbaz A(1) 758 1820 541 1388 5.2% 1.12 [0.97, 1.29]
2011Elbaz A(2) 412 942 248 718 4.0% 1.47 [1.21, 1.80]
2011Elbaz A(3) 73 186 130 358 1.9% 1.13 [0.79, 1.63]
2011Elbaz A(4) 952 2154 485 1342 5.3% 1.40 [1.22, 1.61]
2011Elbaz A(5) 527 1202 430 1052 4.7% 1.13 [0.96, 1.34]
2011Elbaz A(6) 278 682 242 676 3.7% 1.23 [0.99, 1.54]
2011Elbaz A(7) 475 1124 110 282 2.9% 1.14 [0.88, 1.49]
2011Elbaz A(8) 388 900 308 808 4.1% 1.23 [1.01, 1.49]
2011Elbaz A(9) 333 706 407 856 4.0% 0.98 [0.81, 1.20]
2011Wider C 1092 2040 989 2190 5.7% 1.40 [1.24, 1.58]
2012Trotta L 746 1808 669 1782 5.4% 1.17 [1.02, 1.34]
2013Emelyanov A 167 448 182 616 3.1% 1.42 [1.09, 1.83]
Subtotal (95% CI) 19974 20664 75.4% 1.26 [1.19, 1.34]
Total events 8722 7803
Heterogeneity: Tau² = 0.01; Chi² = 30.31, df = 17 (P = 0.02); I² = 44%
Test for overall effect: Z = 8.01 (P < 0.00001)
1.4.3 Latino
2017Campêlo CL 126 208 93 196 1.7% 1.70 [1.15, 2.53]
Subtotal (95% CI) 208 196 1.7% 1.70 [1.15, 2.53]
Total events 126 93
Heterogeneity: Not applicable
Test for overall effect: Z = 2.64 (P = 0.008)
1.4.4 Mixed
2011Elbaz A(10) 339 750 248 712 3.8% 1.54 [1.25, 1.91]
Subtotal (95% CI) 750 712 3.8% 1.54 [1.25, 1.91]
Total events 339 248
Heterogeneity: Not applicable
Test for overall effect: Z = 4.03 (P < 0.0001)
Total (95% CI) 25210 25320 100.0% 1.30 [1.23, 1.38]
Total events 11906 10224
Heterogeneity: Tau² = 0.01; Chi² = 56.16, df = 24 (P = 0.0002); I² = 57%
Test for overall effect: Z = 8.85 (P < 0.00001)
Test for subgroup differences: Chi² = 5.75, df = 3 (P = 0.12), I² = 47.8%
0.5 0.7 1 1.5 2
Favours [experimental] Favours [control]

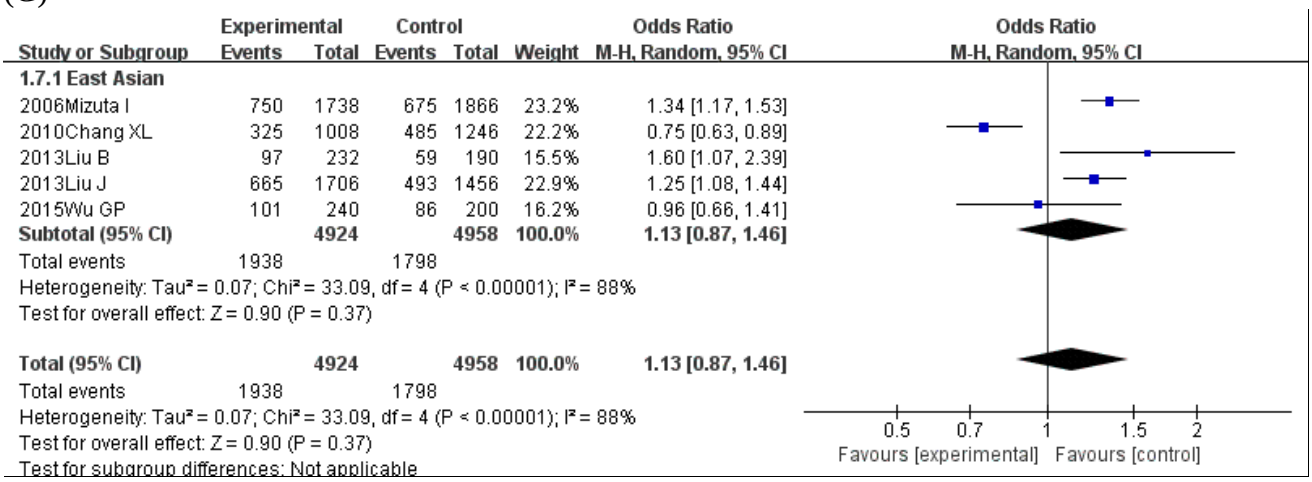
(E)


Experimental
Control
Odds Ratio
Odds Ratio
Study or Subgroup Events Total Events Total Weight M-H, Fixed, 95% CI
M-H, Fixed, 95% CI
1.5.1 East Asian
2012Miyake Y 297 458 426 714 9.3% 1.25 [0.98, 1.59]
2014Guo XY 1168 2022 769 1442 30.1% 1.20 [1.04, 1.37]
Subtotal (95% CI) 2480 2156 39.4% 1.21 [1.07, 1.36]
Total events 1465 1195
Heterogeneity: Chi² = 0.08, df = 1 (P = 0.77); I² = 0%
Test for overall effect: Z = 3.13 (P = 0.002)
1.5.2 European
2009Pankratz N 394 890 256 670 12.9% 1.28 [1.05, 1.58]
2012Trotta L 734 1808 655 1782 31.1% 1.18 [1.03, 1.35]
Subtotal (95% CI) 2698 2452 44.0% 1.21 [1.08, 1.35]
Total events 1128 911
Heterogeneity: Chi² = 0.50, df = 1 (P = 0.48); I² = 0%
Test for overall effect: Z = 3.29 (P = 0.0010)
1.5.3 West Asian
2016Shahmohammadibeni N 432 1040 358 1040 16.6% 1.35 [1.13, 1.62]
Subtotal (95% CI) 1040 1040 16.6% 1.35 [1.13, 1.62]
Total events 432 358
Heterogeneity: Not applicable
Test for overall effect: Z = 3.34 (P = 0.0008)
Total (95% CI) 6218 5648 100.0% 1.23 [1.14, 1.33]
Total events 3025 2464
Heterogeneity: Chi² = 1.88, df = 4 (P = 0.76); I² = 0%
Test for overall effect: Z = 5.53 (P < 0.00001)
Test for subgroup differences: Chi² = 1.30, df = 2 (P = 0.52), I² = 0%
0.7 0.85 1 1.2 1.5
Favours [experimental] Favours [control]

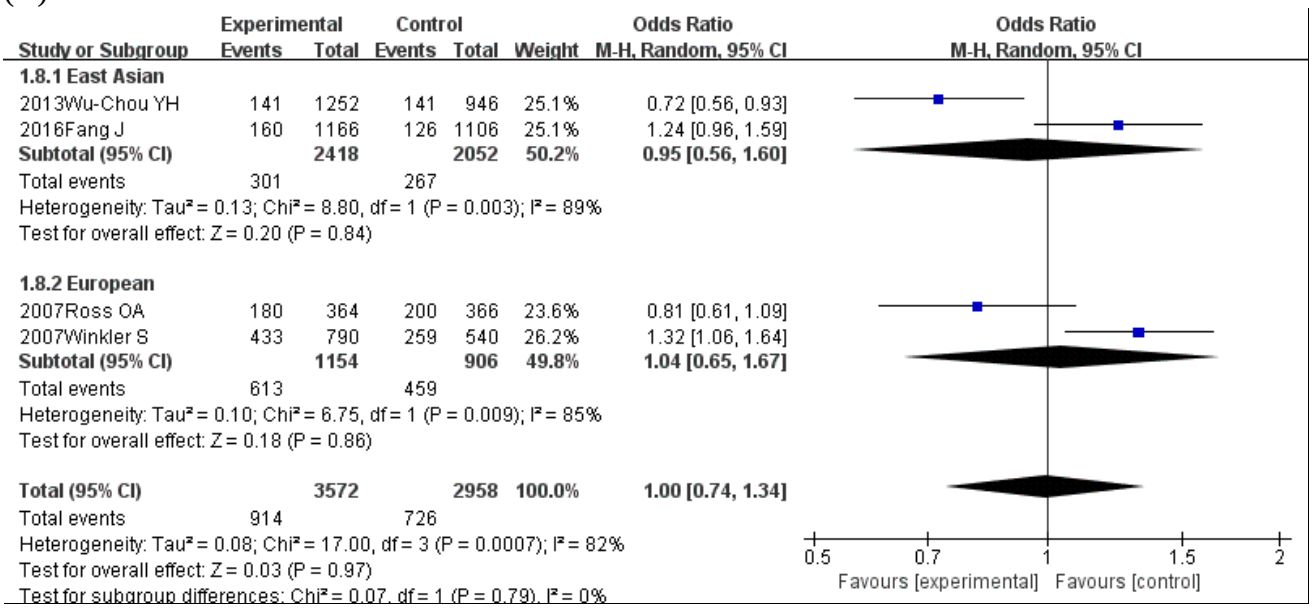
(F)


Experimental
Control
Odds Ratio
Odds Ratio
Study or Subgroup Events Total Events Total Weight M-H, Random, 95% CI
M-H, Random, 95% CI
1.6.1 East Asian
2006Mizuta I 1231 1746 1169 1864 22.3% 1.42 [1.24, 1.63]
2013Wu-Chou YH 832 1252 584 946 21.0% 1.23 [1.03, 1.46]
2016Fang J 702 1166 706 1106 21.2% 0.86 [0.72, 1.02]
Subtotal (95% CI) 4164 3916 64.5% 1.15 [0.85, 1.55]
Total events 2765 2459
Heterogeneity: Tau² = 0.06; Chi² = 20.67, df = 2 (P < 0.0001); I² = 90%
Test for overall effect: Z = 0.90 (P = 0.37)
1.6.2 European
2007Ross OA 194 368 169 364 16.3% 1.29 [0.96, 1.72]
2007Winkler S 372 792 245 538 19.2% 1.06 [0.85, 1.32]
Subtotal (95% CI) 1160 902 35.5% 1.14 [0.95, 1.37]
Total events 566 414
Heterogeneity: Tau² = 0.00; Chi² = 1.09, df = 1 (P = 0.30); I² = 9%
Test for overall effect: Z = 1.39 (P = 0.17)
Total (95% CI) 5324 4818 100.0% 1.15 [0.94, 1.40]
Total events 3331 2873
Heterogeneity: Tau² = 0.04; Chi² = 21.89, df = 4 (P = 0.0002); I² = 82%
Test for overall effect: Z = 1.40 (P = 0.16)
Test for subgroup differences: Chi² = 0.00, df = 1 (P = 0.97), I² = 0%
0.7 0.85 1 1.2 1.5
Favours [experimental] Favours [control]

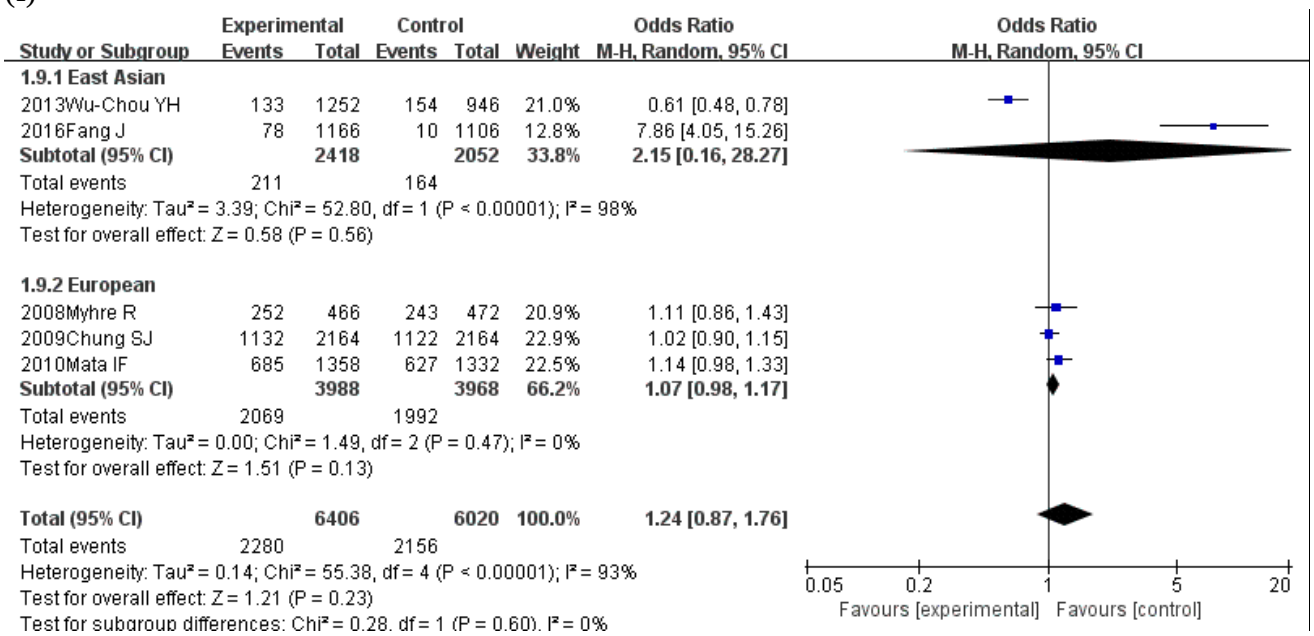
(G)


Experimental
Control
Odds Ratio
Odds Ratio
Study or Subgroup Events Total Events Total Weight M-H, Random, 95% CI
M-H, Random, 95% CI
1.7.1 East Asian
2006Mizuta I 750 1738 675 1866 23.2% 1.34 [1.17, 1.53]
2010Chang XL 325 1008 485 1246 22.2% 0.75 [0.63, 0.89]
2013Liu B 97 232 59 190 15.5% 1.60 [1.07, 2.39]
2013Liu J 665 1706 493 1456 22.9% 1.25 [1.08, 1.44]
2015Wu GP 101 240 86 200 16.2% 0.96 [0.66, 1.41]
Subtotal (95% CI) 4924 4958 100.0% 1.13 [0.87, 1.46]
Total events 1938 1798
Heterogeneity: Tau² = 0.07; Chi² = 33.09, df = 4 (P < 0.00001); I² = 88%
Test for overall effect: Z = 0.90 (P = 0.37)
Total (95% CI) 4924 4958 100.0% 1.13 [0.87, 1.46]
Total events 1938 1798
Heterogeneity: Tau² = 0.07; Chi² = 33.09, df = 4 (P < 0.00001); I² = 88%
Test for overall effect: Z = 0.90 (P = 0.37)
Test for subgroup differences: Not applicable
0.5 0.7 1 1.5 2
Favours [experimental] Favours [control]

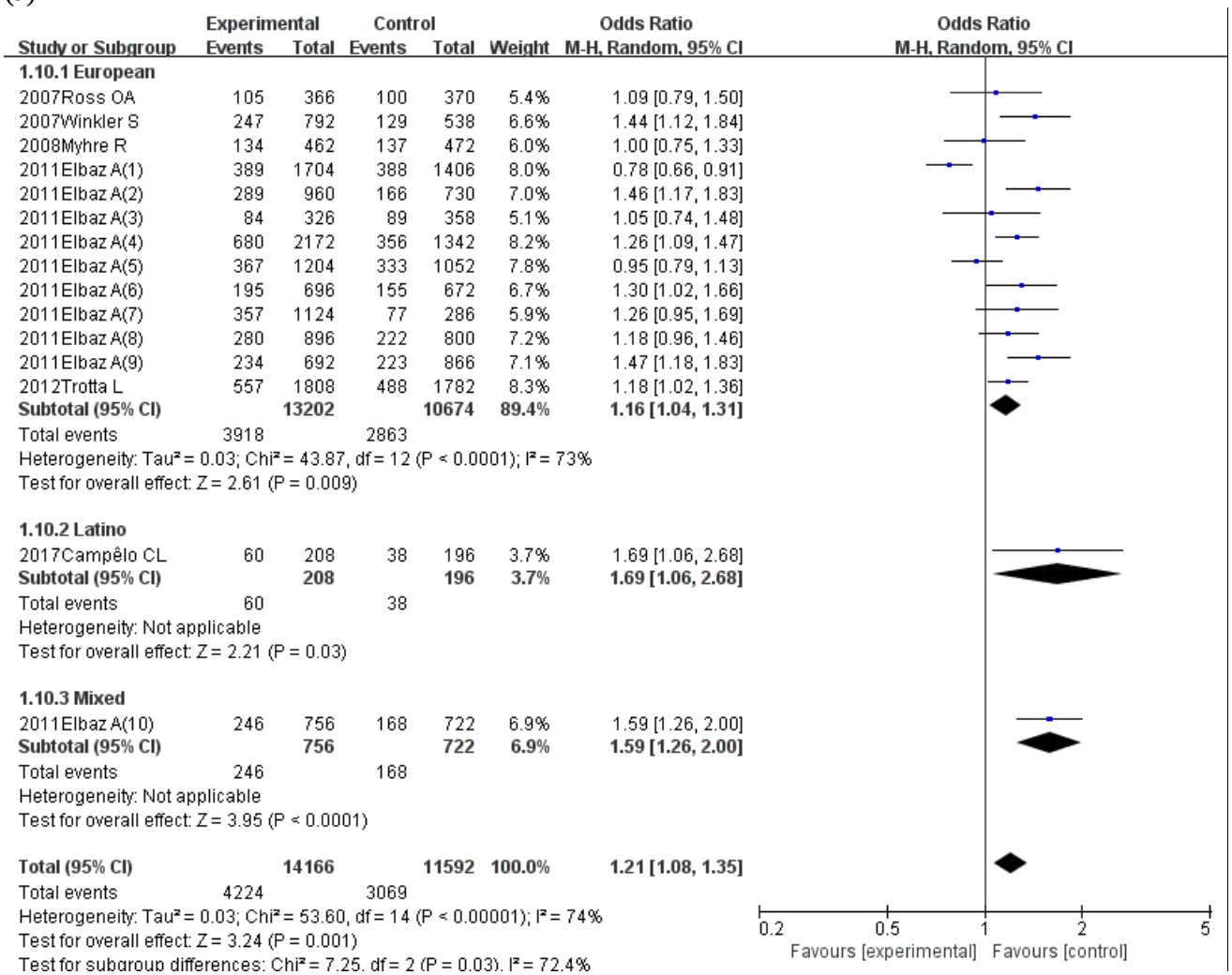
(H)


Experimental
Control
Odds Ratio
Odds Ratio
Study or Subgroup Events Total Events Total Weight M-H, Random, 95% CI
M-H, Random, 95% CI
1.8.1 East Asian
2013Wu-Chou YH 141 1252 141 946 25.1% 0.72 [0.56, 0.93]
2016Fang J 160 1166 126 1106 25.1% 1.24 [0.96, 1.59]
Subtotal (95% CI) 2418 2052 50.2% 0.95 [0.56, 1.60]
Total events 301 267
Heterogeneity: Tau² = 0.13; Chi² = 8.80, df = 1 (P = 0.003); I² = 89%
Test for overall effect: Z = 0.20 (P = 0.84)
1.8.2 European
2007Ross OA 180 364 200 366 23.6% 0.81 [0.61, 1.09]
2007Winkler S 433 790 259 540 26.2% 1.32 [1.06, 1.64]
Subtotal (95% CI) 1154 906 49.8% 1.04 [0.65, 1.67]
Total events 613 459
Heterogeneity: Tau² = 0.10; Chi² = 6.75, df = 1 (P = 0.009); I² = 85%
Test for overall effect: Z = 0.18 (P = 0.86)
Total (95% CI) 3572 2958 100.0% 1.00 [0.74, 1.34]
Total events 914 726
Heterogeneity: Tau² = 0.08; Chi² = 17.00, df = 3 (P = 0.0007); I² = 82%
Test for overall effect: Z = 0.03 (P = 0.97)
Test for subgroup differences: Chi² = 0.07, df = 1 (P = 0.79), I² = 0%
0.5 0.7 1 1.5 2
Favours [experimental] Favours [control]

(I)

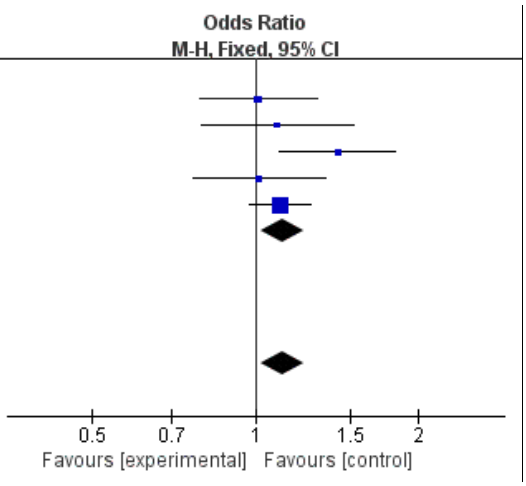

Experimental
Control
Odds Ratio
Odds Ratio
Study or Subgroup Events Total Events Total Weight M-H, Random, 95% CI
M-H, Random, 95% CI
1.9.1 East Asian
2013Wu-Chou YH 133 1252 154 946 21.0% 0.61 [0.48, 0.78]
2016Fang J 78 1166 10 1106 12.8% 7.86 [4.05, 15.26]
Subtotal (95% CI) 2418 2052 33.8% 2.15 [0.16, 28.27]
Total events 211 164
Heterogeneity: Tau² = 3.39; Chi² = 52.80, df = 1 (P < 0.00001); I² = 98%
Test for overall effect: Z = 0.58 (P = 0.56)
1.9.2 European
2008Myhre R 252 466 243 472 20.9% 1.11 [0.86, 1.43]
2009Chung SJ 1132 2164 1122 2164 22.9% 1.02 [0.90, 1.15]
2010Mata IF 685 1358 627 1332 22.5% 1.14 [0.98, 1.33]
Subtotal (95% CI) 3988 3968 66.2% 1.07 [0.98, 1.17]
Total events 2069 1992
Heterogeneity: Tau² = 0.00; Chi² = 1.49, df = 2 (P = 0.47); I² = 0%
Test for overall effect: Z = 1.51 (P = 0.13)
Total (95% CI) 6406 6020 100.0% 1.24 [0.87, 1.76]
Total events 2280 2156
Heterogeneity: Tau² = 0.14; Chi² = 55.38, df = 4 (P < 0.00001); I² = 93%
Test for overall effect: Z = 1.21 (P = 0.23)
Test for subgroup differences: Chi² = 0.28, df = 1 (P = 0.60), I² = 0%
0.05 0.2 1 5 20
Favours [experimental] Favours [control]

(J)


Experimental
Control
Odds Ratio
Odds Ratio
Study or Subgroup Events Total Events Total Weight M-H, Random, 95% CI
M-H, Random, 95% CI
1.10.1 European
2007Ross OA 105 366 100 370 5.4% 1.09 [0.79, 1.50]
2007Winkler S 247 792 129 538 6.6% 1.44 [1.12, 1.84]
2008Myhre R 134 462 137 472 6.0% 1.00 [0.75, 1.33]
2011Elbaz A(1) 389 1704 388 1406 8.0% 0.78 [0.66, 0.91]
2011Elbaz A(2) 289 960 166 730 7.0% 1.46 [1.17, 1.83]
2011Elbaz A(3) 84 326 89 358 5.1% 1.05 [0.74, 1.48]
2011Elbaz A(4) 680 2172 356 1342 8.2% 1.26 [1.09, 1.47]
2011Elbaz A(5) 367 1204 333 1052 7.8% 0.95 [0.79, 1.13]
2011Elbaz A(6) 195 696 155 672 6.7% 1.30 [1.02, 1.66]
2011Elbaz A(7) 357 1124 77 286 5.9% 1.26 [0.95, 1.69]
2011Elbaz A(8) 280 896 222 800 7.2% 1.18 [0.96, 1.46]
2011Elbaz A(9) 234 692 223 866 7.1% 1.47 [1.18, 1.83]
2012Trotta L 557 1808 488 1782 8.3% 1.18 [1.02, 1.36]
Subtotal (95% CI) 13202 10674 89.4% 1.16 [1.04, 1.31]
Total events 3918 2863
Heterogeneity: Tau² = 0.03; Chi² = 43.87, df = 12 (P < 0.0001); I² = 73%
Test for overall effect: Z = 2.61 (P = 0.009)
1.10.2 Latino
2017Campêlo CL 60 208 38 196 3.7% 1.69 [1.06, 2.68]
Subtotal (95% CI) 208 196 3.7% 1.69 [1.06, 2.68]
Total events 60 38
Heterogeneity: Not applicable
Test for overall effect: Z = 2.21 (P = 0.03)
1.10.3 Mixed
2011Elbaz A(10) 246 756 168 722 6.9% 1.59 [1.26, 2.00]
Subtotal (95% CI) 756 722 6.9% 1.59 [1.26, 2.00]
Total events 246 168
Heterogeneity: Not applicable
Test for overall effect: Z = 3.95 (P < 0.0001)
Total (95% CI) 14166 11592 100.0% 1.21 [1.08, 1.35]
Total events 4224 3069
Heterogeneity: Tau² = 0.03; Chi² = 53.60, df = 14 (P < 0.00001); I² = 74%
Test for overall effect: Z = 3.24 (P = 0.001)
Test for subgroup differences: Chi² = 7.25, df = 2 (P = 0.03), I² = 72.4%
0.2 0.5 1 2 5
Favours [experimental] Favours [control]

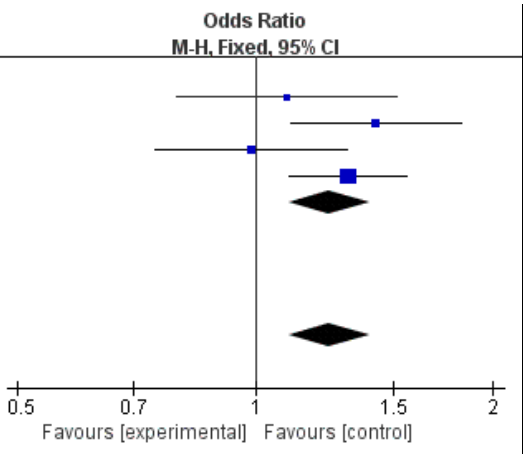
(K)

Study or Subgroup	Experimental Events	Experimental Total	Control Events	Control Total	Weight	Odds Ratio M-H, Fixed, 95% CI
1.11.1 European						
2007Parsian AJ	295	958	127	416	14.9%	1.01 [0.79, 1.30]
2007Ross OA	106	366	99	366	8.5%	1.10 [0.80, 1.52]
2007Winkler S	247	792	130	538	12.9%	1.42 [1.11, 1.82]
2008Myhre R	136	470	135	472	11.6%	1.02 [0.77, 1.35]
2009Chung SJ	667	2170	619	2170	52.0%	1.11 [0.98, 1.27]
Subtotal (95% CI)		**4756**		**3962**	**100.0%**	**1.13 [1.02, 1.24]**
Total events	1451		1110			
Heterogeneity: Chi² = 4.66, df = 4 (P = 0.32); I² = 14%						
Test for overall effect: Z = 2.46 (P = 0.01)						
Total (95% CI)		**4756**		**3962**	**100.0%**	**1.13 [1.02, 1.24]**
Total events	1451		1110			
Heterogeneity: Chi² = 4.66, df = 4 (P = 0.32); I² = 14%						
Test for overall effect: Z = 2.46 (P = 0.01)						
Test for subgroup differences: Not applicable						

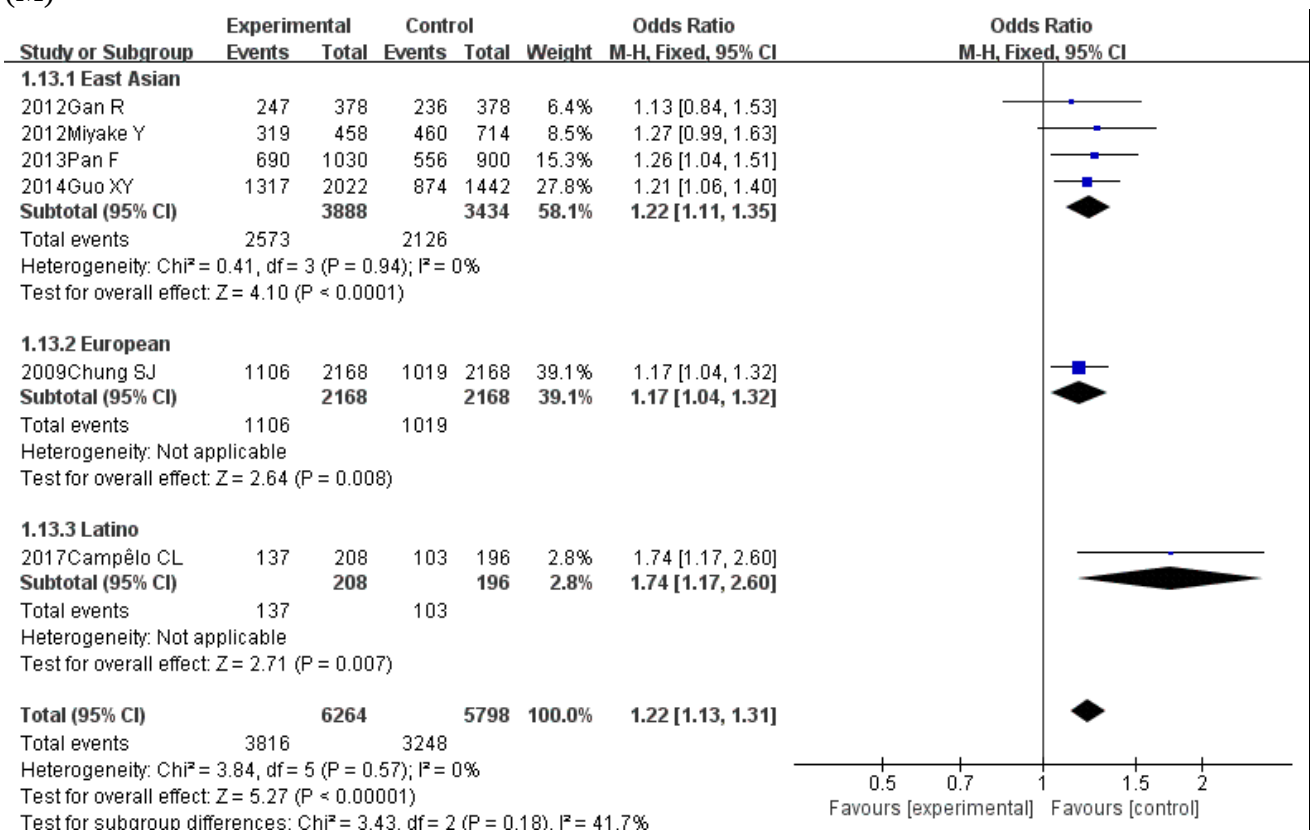


(L)

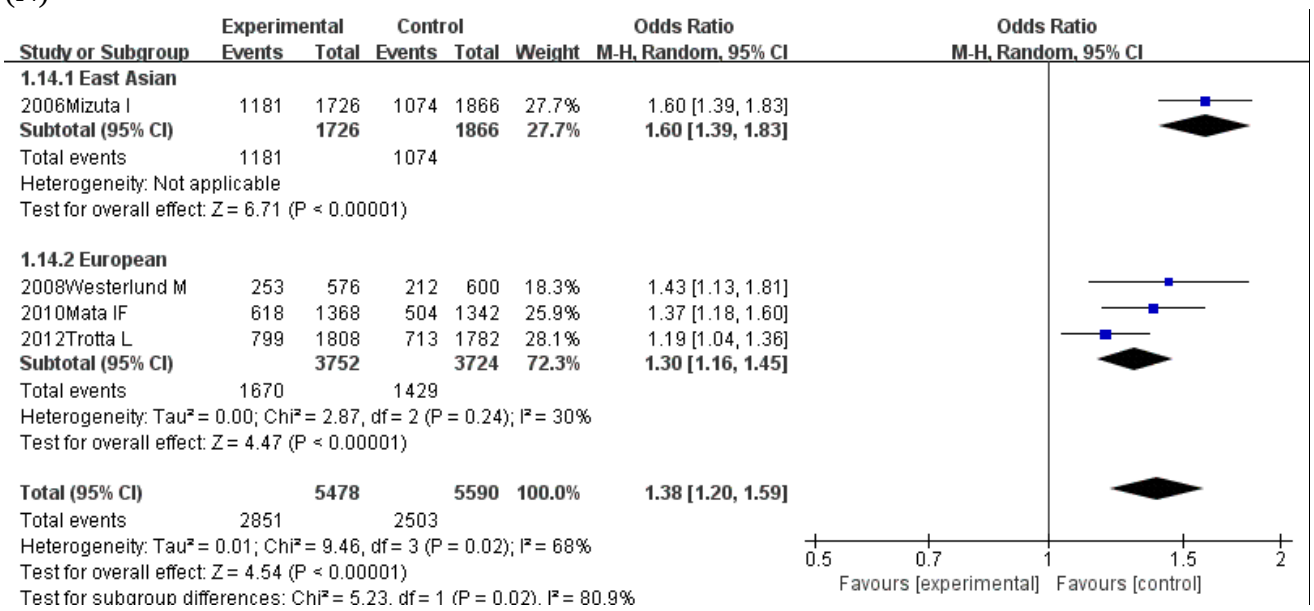
Study or Subgroup	Experimental Events	Experimental Total	Control Events	Control Total	Weight	Odds Ratio M-H, Fixed, 95% CI
1.12.1 European						
2007Ross OA	107	370	100	370	14.0%	1.10 [0.80, 1.51]
2007Winkler S	246	792	129	536	20.9%	1.42 [1.11, 1.82]
2008Myhre R	138	462	142	472	19.4%	0.99 [0.75, 1.31]
2010Mata IF	409	1356	328	1324	45.7%	1.31 [1.11, 1.56]
Subtotal (95% CI)		**2980**		**2702**	**100.0%**	**1.24 [1.11, 1.40]**
Total events	900		699			
Heterogeneity: Chi² = 4.61, df = 3 (P = 0.20); I² = 35%						
Test for overall effect: Z = 3.64 (P = 0.0003)						
Total (95% CI)		**2980**		**2702**	**100.0%**	**1.24 [1.11, 1.40]**
Total events	900		699			
Heterogeneity: Chi² = 4.61, df = 3 (P = 0.20); I² = 35%						
Test for overall effect: Z = 3.64 (P = 0.0003)						
Test for subgroup differences: Not applicable						



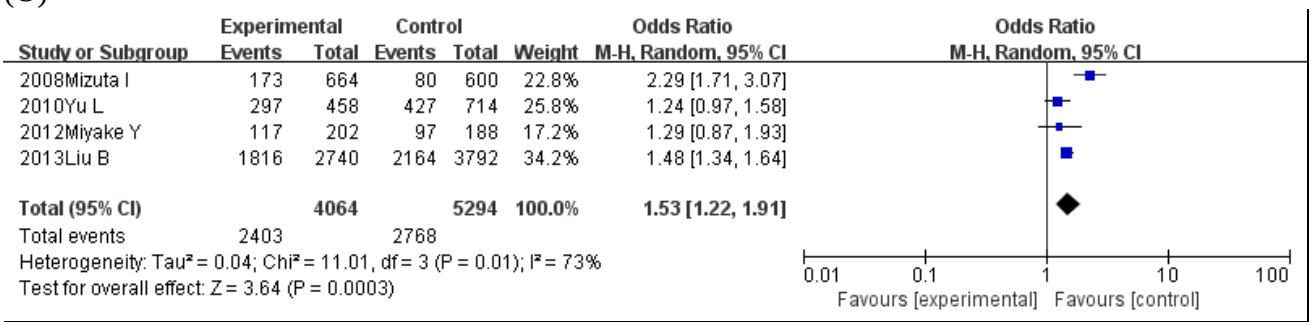
(M)


Experimental
Control
Odds Ratio
Odds Ratio
Study or Subgroup Events Total Events Total Weight M-H, Fixed, 95% CI
M-H, Fixed, 95% CI
1.13.1 East Asian
2012Gan R 247 378 236 378 6.4% 1.13 [0.84, 1.53]
2012Miyake Y 319 458 460 714 8.5% 1.27 [0.99, 1.63]
2013Pan F 690 1030 556 900 15.3% 1.26 [1.04, 1.51]
2014Guo XY 1317 2022 874 1442 27.8% 1.21 [1.06, 1.40]
Subtotal (95% CI) 3888 3434 58.1% 1.22 [1.11, 1.35]
Total events 2573 2126
Heterogeneity: Chi² = 0.41, df = 3 (P = 0.94); I² = 0%
Test for overall effect: Z = 4.10 (P < 0.0001)
1.13.2 European
2009Chung SJ 1106 2168 1019 2168 39.1% 1.17 [1.04, 1.32]
Subtotal (95% CI) 2168 2168 39.1% 1.17 [1.04, 1.32]
Total events 1106 1019
Heterogeneity: Not applicable
Test for overall effect: Z = 2.64 (P = 0.008)
1.13.3 Latino
2017Campêlo CL 137 208 103 196 2.8% 1.74 [1.17, 2.60]
Subtotal (95% CI) 208 196 2.8% 1.74 [1.17, 2.60]
Total events 137 103
Heterogeneity: Not applicable
Test for overall effect: Z = 2.71 (P = 0.007)
Total (95% CI) 6264 5798 100.0% 1.22 [1.13, 1.31]
Total events 3816 3248
Heterogeneity: Chi² = 3.84, df = 5 (P = 0.57); I² = 0%
Test for overall effect: Z = 5.27 (P < 0.00001)
Test for subgroup differences: Chi² = 3.43, df = 2 (P = 0.18), I² = 41.7%
0.5
0.7
1
1.5
2
Favours [experimental]
Favours [control]

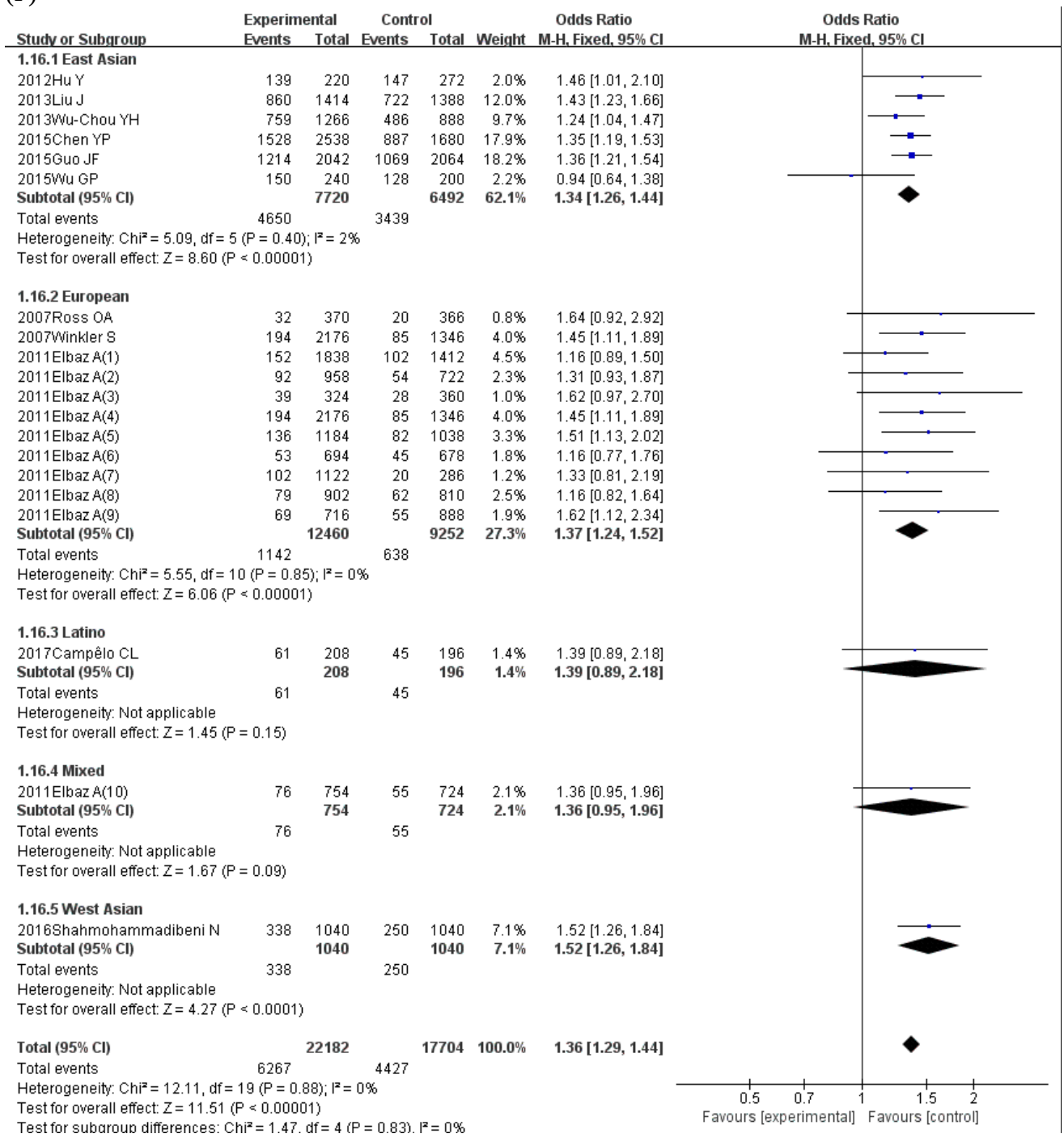
(N)


Experimental
Control
Odds Ratio
Odds Ratio
Study or Subgroup Events Total Events Total Weight M-H, Random, 95% CI
M-H, Random, 95% CI
1.14.1 East Asian
2006Mizuta I 1181 1726 1074 1866 27.7% 1.60 [1.39, 1.83]
Subtotal (95% CI) 1726 1866 27.7% 1.60 [1.39, 1.83]
Total events 1181 1074
Heterogeneity: Not applicable
Test for overall effect: Z = 6.71 (P < 0.00001)
1.14.2 European
2008Westerlund M 253 576 212 600 18.3% 1.43 [1.13, 1.81]
2010Mata IF 618 1368 504 1342 25.9% 1.37 [1.18, 1.60]
2012Trotta L 799 1808 713 1782 28.1% 1.19 [1.04, 1.36]
Subtotal (95% CI) 3752 3724 72.3% 1.30 [1.16, 1.45]
Total events 1670 1429
Heterogeneity: Tau² = 0.00; Chi² = 2.87, df = 2 (P = 0.24); I² = 30%
Test for overall effect: Z = 4.47 (P < 0.00001)
Total (95% CI) 5478 5590 100.0% 1.38 [1.20, 1.59]
Total events 2851 2503
Heterogeneity: Tau² = 0.01; Chi² = 9.46, df = 3 (P = 0.02); I² = 68%
Test for overall effect: Z = 4.54 (P < 0.00001)
Test for subgroup differences: Chi² = 5.23, df = 1 (P = 0.02), I² = 80.9%
0.5
0.7
1
1.5
2
Favours [experimental]
Favours [control]

(O)


Experimental
Control
Odds Ratio
Odds Ratio
Study or Subgroup Events Total Events Total Weight M-H, Random, 95% CI
M-H, Random, 95% CI
2008Mizuta I 173 664 80 600 22.8% 2.29 [1.71, 3.07]
2010Yu L 297 458 427 714 25.8% 1.24 [0.97, 1.58]
2012Miyake Y 117 202 97 188 17.2% 1.29 [0.87, 1.93]
2013Liu B 1816 2740 2164 3792 34.2% 1.48 [1.34, 1.64]
Total (95% CI) 4064 5294 100.0% 1.53 [1.22, 1.91]
Total events 2403 2768
Heterogeneity: Tau² = 0.04; Chi² = 11.01, df = 3 (P = 0.01); I² = 73%
Test for overall effect: Z = 3.64 (P = 0.0003)
0.01
0.1
1
10
100
Favours [experimental]
Favours [control]

(P)



Supplementary Figure 1: Forest plots of the association between each *SNCA* variant (allele) included and PD risks in total and by ethnicity. (A)-(P) were individually responsive to the variants rs181489(T), rs356165(G), rs356186(A), rs356219(G), rs356220(T), rs356221(A), rs894278(G), rs2301134(A), rs2301135(G), rs2583988(T), rs2619363(T), rs2619364(G), rs2736990(G), rs2737029(G), rs7684318(C), rs11931074(T).