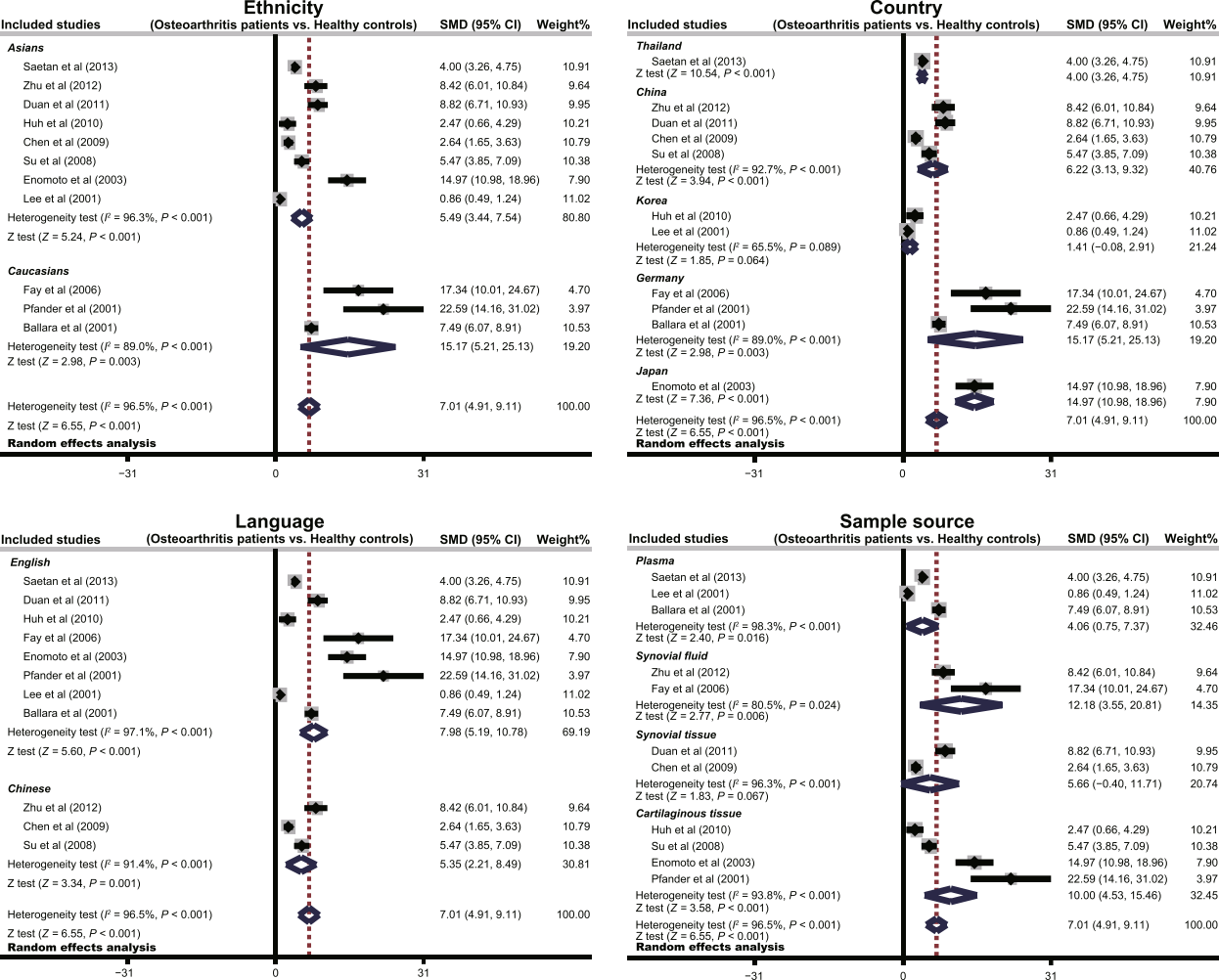
Ethnicity
Included studies (Osteoarthritis patients vs. Healthy controls) SMD (95% CI) Weight%
Asians
Saetan et al (2013) 4.00 (3.26, 4.75) 10.91
Zhu et al (2012) 8.42 (6.01, 10.84) 9.64
Duan et al (2011) 8.82 (6.71, 10.93) 9.95
Huh et al (2010) 2.47 (0.66, 4.29) 10.21
Chen et al (2009) 2.64 (1.65, 3.63) 10.79
Su et al (2008) 5.47 (3.85, 7.09) 10.38
Enomoto et al (2003) 14.97 (10.98, 18.96) 7.90
Lee et al (2001) 0.86 (0.49, 1.24) 11.02
Heterogeneity test (I² = 96.3%, P < 0.001) 5.49 (3.44, 7.54) 80.80
Z test (Z = 5.24, P < 0.001)
Caucasians
Fay et al (2006) 17.34 (10.01, 24.67) 4.70
Pfander et al (2001) 22.59 (14.16, 31.02) 3.97
Ballara et al (2001) 7.49 (6.07, 8.91) 10.53
Heterogeneity test (I² = 89.0%, P < 0.001) 15.17 (5.21, 25.13) 19.20
Z test (Z = 2.98, P = 0.003)
Heterogeneity test (I² = 96.5%, P < 0.001) 7.01 (4.91, 9.11) 100.00
Z test (Z = 6.55, P < 0.001)
Random effects analysis
−31
0
31
Country
Included studies (Osteoarthritis patients vs. Healthy controls) SMD (95% CI) Weight%
Thailand
Saetan et al (2013) 4.00 (3.26, 4.75) 10.91
Z test (Z = 10.54, P < 0.001) 4.00 (3.26, 4.75) 10.91
China
Zhu et al (2012) 8.42 (6.01, 10.84) 9.64
Duan et al (2011) 8.82 (6.71, 10.93) 9.95
Chen et al (2009) 2.64 (1.65, 3.63) 10.79
Su et al (2008) 5.47 (3.85, 7.09) 10.38
Heterogeneity test (I² = 92.7%, P < 0.001) 6.22 (3.13, 9.32) 40.76
Z test (Z = 3.94, P < 0.001)
Korea
Huh et al (2010) 2.47 (0.66, 4.29) 10.21
Lee et al (2001) 0.86 (0.49, 1.24) 11.02
Heterogeneity test (I² = 65.5%, P = 0.089) 1.41 (−0.08, 2.91) 21.24
Z test (Z = 1.85, P = 0.064)
Germany
Fay et al (2006) 17.34 (10.01, 24.67) 4.70
Pfander et al (2001) 22.59 (14.16, 31.02) 3.97
Ballara et al (2001) 7.49 (6.07, 8.91) 10.53
Heterogeneity test (I² = 89.0%, P < 0.001) 15.17 (5.21, 25.13) 19.20
Z test (Z = 2.98, P = 0.003)
Japan
Enomoto et al (2003) 14.97 (10.98, 18.96) 7.90
Z test (Z = 7.36, P < 0.001) 14.97 (10.98, 18.96) 7.90
Heterogeneity test (I² = 96.5%, P < 0.001) 7.01 (4.91, 9.11) 100.00
Z test (Z = 6.55, P < 0.001)
Random effects analysis
−31
0
31
Language
Included studies (Osteoarthritis patients vs. Healthy controls) SMD (95% CI) Weight%
English
Saetan et al (2013) 4.00 (3.26, 4.75) 10.91
Duan et al (2011) 8.82 (6.71, 10.93) 9.95
Huh et al (2010) 2.47 (0.66, 4.29) 10.21
Fay et al (2006) 17.34 (10.01, 24.67) 4.70
Enomoto et al (2003) 14.97 (10.98, 18.96) 7.90
Pfander et al (2001) 22.59 (14.16, 31.02) 3.97
Lee et al (2001) 0.86 (0.49, 1.24) 11.02
Ballara et al (2001) 7.49 (6.07, 8.91) 10.53
Heterogeneity test (I² = 97.1%, P < 0.001) 7.98 (5.19, 10.78) 69.19
Z test (Z = 5.60, P < 0.001)
Chinese
Zhu et al (2012) 8.42 (6.01, 10.84) 9.64
Chen et al (2009) 2.64 (1.65, 3.63) 10.79
Su et al (2008) 5.47 (3.85, 7.09) 10.38
Heterogeneity test (I² = 91.4%, P < 0.001) 5.35 (2.21, 8.49) 30.81
Z test (Z = 3.34, P = 0.001)
Heterogeneity test (I² = 96.5%, P < 0.001) 7.01 (4.91, 9.11) 100.00
Z test (Z = 6.55, P < 0.001)
Random effects analysis
−31
0
31
Sample source
Included studies (Osteoarthritis patients vs. Healthy controls) SMD (95% CI) Weight%
Plasma
Saetan et al (2013) 4.00 (3.26, 4.75) 10.91
Lee et al (2001) 0.86 (0.49, 1.24) 11.02
Ballara et al (2001) 7.49 (6.07, 8.91) 10.53
Heterogeneity test (I² = 98.3%, P < 0.001) 4.06 (0.75, 7.37) 32.46
Z test (Z = 2.40, P = 0.016)
Synovial fluid
Zhu et al (2012) 8.42 (6.01, 10.84) 9.64
Fay et al (2006) 17.34 (10.01, 24.67) 4.70
Heterogeneity test (I² = 80.5%, P = 0.024) 12.18 (3.55, 20.81) 14.35
Z test (Z = 2.77, P = 0.006)
Synovial tissue
Duan et al (2011) 8.82 (6.71, 10.93) 9.95
Chen et al (2009) 2.64 (1.65, 3.63) 10.79
Heterogeneity test (I² = 96.3%, P < 0.001) 5.66 (−0.40, 11.71) 20.74
Z test (Z = 1.83, P = 0.067)
Cartilaginous tissue
Huh et al (2010) 2.47 (0.66, 4.29) 10.21
Su et al (2008) 5.47 (3.85, 7.09) 10.38
Enomoto et al (2003) 14.97 (10.98, 18.96) 7.90
Pfander et al (2001) 22.59 (14.16, 31.02) 3.97
Heterogeneity test (I² = 93.8%, P < 0.001) 10.00 (4.53, 15.46) 32.45
Z test (Z = 3.58, P < 0.001)
Heterogeneity test (I² = 96.5%, P < 0.001) 7.01 (4.91, 9.11) 100.00
Z test (Z = 6.55, P < 0.001)
Random effects analysis
−31
0
31