PPARG (Pro12Ala) genetic variant and risk of T2DM: a systematic review and meta-analysis

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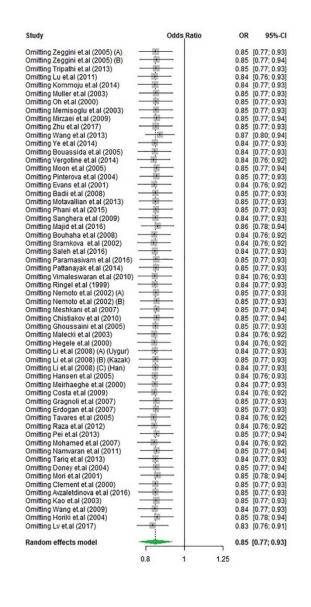
² Elderly Health Research Center, Endocrinology and Metabolism Population Sciences Institute, Tehran University of Medical Sciences, Tehran 1411413137, Iran

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		0.83	[0.77; 0.9
Omitting Phani et.al (2015)	apa .	0.83	[0.76; 0.9
Omitting Sanghera et.al (2009)		0.82	[0.76; 0.8
Omitting Sanghera et al (2009) Omitting Majid et al (2016)	- 60	0.82	
Omitting Bouhaha et.al (2008)	100		[0.76; 0.8
Omitting Sramkova et.al (2002) -	100	0.82	[0.76; 0.8
Omitting Staffikova et.al (2002) Omitting Saleh et.al (2016)	100	0.82	[0.76; 0.8
		07177	
Omitting Paramasivam et.al (2016) Omitting Pattanayak et.al (2014)	1000	0.83 0.82	[0.76; 0.9
	100		
Omitting Vimaleswaran et.al (2010)	ndo	0.82	[0.76; 0.8
Omitting Ringel et.al (1999) -	101	0.82	[0.76; 0.8
Omitting Nemoto et.al (2002) (A)		0.82	[0.76; 0.8
Omitting Nemoto et.al (2002) (B)	don	0.83	[0.76; 0.9
Omitting Meshkani et.al (2007)			[0.76; 0.9
Omitting Hara et.al (2000)	100		[0.77; 0.9
Omitting Chistiakov et.al (2010)	100	0.83	
Omitting Ghoussaini et.al (2005)	- <u>P</u>	0.82	
Omitting Mato et.al (2016)	100	0.82	[0.76; 0.8
Omitting Malecki et.al (2003)	100	0.82	[0.76; 0.8
Omitting Lara-Riegos et.al (2015)	100	0.82	
Omitting Hegele et.al (2000)	100	0.82	
Omitting Li et.al (2008) (A) (Uygur)	100 100		[0.76; 0.8
Omitting Li et.al (2008) (B) (Kazak)	150	0.82	[0.76; 0.8
Omitting Li et.al (2008) (C) (Han)	- II	0.82	[0.76; 0.8
Omitting Ho et.al (2012) (B) (Stage 1+2)	- 10	0.83	[0.76; 0.9
Omitting Hansen et.al (2005)	100	0.82	[0.75; 0.8
Omitting Meirhaeghe et.al (2000)	100	0.82	[0.76; 0.8
Omitting Costa et.al (2009)	- 6	0.82	[0.76; 0.8
Omitting Gragnoli et.al (2007)		0.83	[0.76; 0.8
Omitting Erdogan et.al (2007)	- 10	0.83	[0.76; 0.8
Omitting Tavares et.al (2005)	- 10		[0.75; 0.8
Omitting Raza et.al (2012)	- 10 -	0.83	
Omitting Pei et.al (2013)	-10	0.83	[0.76; 0.9
Omitting Mohamed et.al (2007)	- 10	0.82	[0.75; 0.8
Omitting Namvaran et.al (2011)		0.83	[0.76; 0.9
Omitting Tarig et.al (2013)	- 100	0.82	[0.76; 0.8
Omitting Doney et.al (2004)	- 10 -	0.82	
Omitting Mori et.al (2001)	100	0.83	[0.77; 0.9
Omitting Clement et.al (2000)	100	0.82	[0.76; 0.8
Omitting Avzaletdinova et.al (2016)	-	0.82	[0.76; 0.8
Omitting Kao et.al (2003)	- 10	0.83	10.76; 0.8
Omitting Wang et.al (2009)			[0.76; 0.8
Omitting Horiki et.al (2004)		0.83	[0.76; 0.9
Omitting Douglas et.al (2001)	- 60	0.83	[0.76; 0.9
Omitting Lv et.al (2017)	191	0.83	[0.76; 0.8
Omitting Livetai (2017) Omitting Mancini et.al (1999)	500	0.81	
	100		
Omitting Radha et al (2006) (South Asian living in Chennai) -	1000 1000		[0.75; 0.8
Omitting Radha et.al (2006) (South Asian living in Dallas) -	Sept.	0.82	[0.76; 0.8
Omitting Radha et.al (2006) (Caucasian living in Dallas) Omitting Martínez⊑Gómez et.al (2011) (Combined) -	-		[0.77; 0.9
Random effects model		0.82	[0.76; 0.8
	0.8 1	1.25	

Study	Odds Ratio	OR	95%-CI
Omitting Zeggini et.al (2005) (A)			[0.57; 0.91]
Omitting Zeggini et.al (2005) (B)	- 10		[0.55; 0.90]
Omitting Tripathi et.al (2013)	1000	0.71	[0.57; 0.90]
Omitting Lu et.al (2011)	- 12		[0.55; 0.89]
Omitting Kommoju et.al (2014)		0.68	[0.54; 0.86]
Omitting Muller et.al (2003)	- 19 -		[0.55; 0.90]
Omitting Oh et.al (2000)	- 100		[0.55; 0.88]
Omitting Memisoglu et.al (2003)			[0.56; 0.90]
Omitting Mirzaei et.al (2009)	- 10		[0.55; 0.89]
Omitting Zhu et.al (2017)	100		[0.55; 0.89]
Omitting Sokkar et.al (2009)	Sees .		[0.57; 0.91]
Omitting Wang et.al (2013)			[0.54; 0.88]
Omitting Bener et.al (2015)	100		[0.54; 0.87]
Omitting Ye et.al (2014)	100		[0.55; 0.88]
Omitting Bouassida et.al (2005)	100		[0.55; 0.89]
Omitting Vergotine et.al (2014)	1000		[0.55; 0.89]
Omitting Moon et.al (2005)			[0.55; 0.89]
Omitting Pinterova et.al (2004)	100		[0.56; 0.90]
	100		
Omitting Evans et.al (2001)	100		[0.54; 0.86]
Omitting Badii et.al (2008)	60K		[0.54; 0.88]
Omitting Motavallian et.al (2013)	100		[0.59; 0.93]
Omitting Phani et.al (2015)	100		[0.56; 0.90]
Omitting Sanghera et.al (2009)	pion non		[0.57; 0.91]
Omitting Majid et.al (2016)	100		[0.56; 0.90]
Omitting Bouhaha et.al (2008)	nds		[0.55; 0.88]
Omitting Sramkova et.al (2002)	1000 1000		[0.55; 0.89]
Omitting Saleh et.al (2016)	600		[0.55; 0.89]
Omitting Paramasivam et.al (2016)			[0.57; 0.91]
Omitting Pattanayak et.al (2014)	101		[0.55; 0.89]
Omitting Vimaleswaran et.al (2010)	181		[0.55; 0.89]
Omitting Ringel et.al (1999)			[0.54; 0.88]
Omitting Nemoto et.al (2002) (A)	100		[0.55; 0.89]
Omitting Nemoto et.al (2002) (B)	100		[0.55; 0.89]
Omitting Meshkani et.al (2007)	- 10		[0.56; 0.90]
Omitting Chistiakov et.al (2010)	100		[0.56; 0.91]
Omitting Ghoussaini et.al (2005)			[0.57; 0.92]
Omitting Mato et.al (2016)			[0.55; 0.89]
Omitting Malecki et.al (2003)	- 10		[0.54; 0.89]
Omitting Hegele et.al (2000)		0.70	[0.55; 0.88]
Omitting Li et.al (2008) (A) (Uygur)		0.70	[0.55; 0.88]
Omitting Li et.al (2008) (B) (Kazak)		0.70	[0.55; 0.89]
Omitting Li et.al (2008) (C) (Han)		0.70	[0.55; 0.88]
Omitting Hansen et.al (2005)			[0.54; 0.88]
Omitting Meirhaeghe et.al (2000)	- 13	0.71	[0.56; 0.90]
Omitting Costa et.al (2009)		0.70	[0.55; 0.89]
Omitting Gragnoli et.al (2007)	- 101	0.70	[0.55; 0.89]
Omitting Erdogan et.al (2007)	- 18	0.70	[0.55; 0.89]
Omitting Tavares et.al (2005)	100	0.70	[0.55; 0.89]
Omitting Raza et.al (2012)	- 101	0.71	[0.56; 0.90]
Omitting Pei et.al (2013)	- 100		[0.55; 0.89]
Omitting Mohamed et.al (2007)			[0.55; 0.88]
Omitting Namvaran et.al (2011)	- 1		[0.55; 0.89]
Omitting Tariq et.al (2013)			[0.54; 0.87]
Omitting Doney et.al (2004)			[0.55; 0.90]
Omitting Mori et.al (2001)	100		[0.56; 0.90]
Omitting Clement et.al (2000)	100		[0.53; 0.88]
Omitting Avzaletdinova et.al (2016)	100		[0.54; 0.86]
	100		[0.55; 0.88]
Omitting Kao et al (2003)	100		
Omitting Wang et.al (2009)	100		[0.54; 0.88]
Omitting Horiki et.al (2004)	1000		[0.55; 0.89]
Omitting Lv et.al (2017)	200		[0.55; 0.81]
Omitting Mancini et.al (1999)	Biog .	0.70	[0.55; 0.89]
Candom effects model		0.70	10 55. 0 003
Random effects model		0.70	[0.55; 0.89]

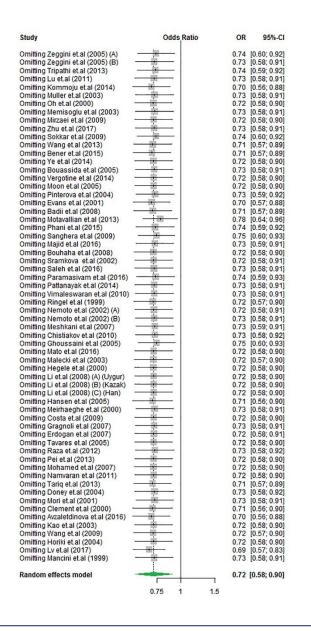


A B

 \mathbf{C}

Study	Odds Ratio	OR	95%-0
Omitting Zeggini et.al (2005) (A)	- 10	0.83	[0.70; 0.9
Omitting Zeggini et.al (2005) (B)		0.82	[0.70; 0.9]
Omitting Tripathi et.al (2013)			[0.70; 0.9]
Omitting Lu et.al (2011)	- 121		[0.69; 0.9
Omitting Kommoju et.al (2014)		0.79	
Omitting Muller et.al (2003)		0.82	
Omitting Oh et.al (2000)		0.81	
	100		
Omitting Memisoglu et.al (2003)	1000		[0.70; 0.9]
Omitting Mirzaei et.al (2009)	100	0.81	
Omitting Zhu et.al (2017)	100		[0.69; 0.9
Omitting Sokkar et.al (2009)	100		[0.70; 0.9
Omitting Wang et.al (2013)	100 100		[0.68; 0.9
Omitting Bener et.al (2015)			[0.68; 0.9
Omitting Ye et.al (2014)	E-SA		[0.69; 0.9
Omitting Bouassida et.al (2005)			[0.70; 0.9]
Omitting Vergotine et.al (2014)	- 12	0.82	[0.69; 0.9
Omitting Moon et.al (2005)		0.82	[0.69; 0.9
Omitting Pinterova et.al (2004)	959 858	0.82	
Omitting Evans et.al (2001)		0.80	
Omitting Badii et.al (2008)		0.81	
Omitting Motavallian et.al (2013)	100		[0.75; 1.0
	200		
Omitting Phani et.al (2015)	Mari		[0.70; 0.9]
Omitting Sanghera et.al (2009)	September 1		[0.71; 0.9
Omitting Majid et.al (2016)	600		[0.70; 0.9
Omitting Bouhaha et.al (2008)	-		[0.69; 0.9
Omitting Sramkova et.al (2002)	-	0.82	
Omitting Saleh et.al (2016)	- 13	0.82	[0.70; 0.9
Omitting Paramasivam et.al (2016)	- 61	0.83	[0.70; 0.9
Omitting Pattanayak et.al (2014)	- 1000 1000	0.82	[0.69; 0.9
Omitting Vimaleswaran et.al (2010)			[0.70; 0.9]
Omitting Ringel et.al (1999)	100	0.81	
Omitting Nemoto et.al (2002) (A)	100		[0.69; 0.9
Omitting Nemoto et.al (2002) (B)	- 100 100		[0.69; 0.9
Omitting Meshkani et.al (2007)	004 000		[0.70; 0.9
	100		
Omitting Chistiakov et.al (2010)	To the second		[0.70; 0.9
Omitting Ghoussaini et.al (2005)	1000		[0.71; 0.9
Omitting Mato et.al (2016)	100		[0.69; 0.9
Omitting Malecki et.al (2003)		0.82	
Omitting Hegele et.al (2000)		0.82	
Omitting Li et.al (2008) (A) (Uygur)	- 2		[0.69; 0.9
Omitting Li et.al (2008) (B) (Kazak)	- 101	0.82	
Omitting Li et.al (2008) (C) (Han)	- 100	0.82	[0.69; 0.9
Omitting Hansen et.al (2005)		0.80	[0.67; 0.9
Omitting Meirhaeghe et.al (2000)	- 1		[0.70; 0.9
Omitting Costa et.al (2009)			[0.69; 0.9
Omitting Gragnoli et.al (2007)		0.82	
Omitting Erdogan et.al (2007)	100		[0.69; 0.9
Omitting Tavares et.al (2005)	100	0.82	
	004 1008		
Omitting Raza et.al (2012)	1000	0.86	
Omitting Pei et.al (2013)	100	0.82	
Omitting Mohamed et.al (2007)		0.81	
Omitting Namvaran et.al (2011)	1000 1000		[0.69; 0.9
Omitting Tariq et.al (2013)		0.81	[0.69; 0.9
Omitting Doney et.al (2004)		0.82	[0.69; 0.9]
Omitting Mori et.al (2001)		0.82	[0.70; 0.9]
Omitting Clement et.al (2000)	100	0.82	[0.69; 0.9
Omitting Avzaletdinova et.al (2016)	- B		[0.67; 0.9
Omitting Kao et.al (2003)	1000 1000		[0.69; 0.9
Omitting Wang et.al (2009)		0.81	
Omitting Horiki et.al (2004)	1000 1000	0.82	
	7		
Omitting Lv et.al (2017) - Omitting Mancini et.al (1999)	-	0.74 0.82	[0.62; 0.8
Fixed effect model		0.82	[0.69; 0.9
WALL WALL DOWN THE THE COLOT THE THE			ne sere ne tra

Study	Odds	Ratio OR	95%-CI
Omitting Zeggini et.al (2005) (A) Omitting Zeggini et.al (2005) (B) Omitting Tripathi et.al (2013) Omitting Lu et.al (2011) Omitting Lu et.al (2011) Omitting Moller et.al (2003) Omitting Moller et.al (2003) Omitting Moller et.al (2003) Omitting Moller et.al (2003) Omitting Meriza et.al (2009) Omitting Mirzaei et.al (2009) Omitting Mirzaei et.al (2009) Omitting Sokkar et.al (2009) Omitting Sokkar et.al (2013) Omitting Bouassida et.al (2013) Omitting Bener et.al (2015) Omitting Ye et.al (2014) Omitting Bouassida et.al (2005) Omitting Vergotine et.al (2014) Omitting Bouassida et.al (2005) Omitting Evans et.al (2000) Omitting Evans et.al (2001) Omitting Bouassida et.al (2001) Omitting Bouassida et.al (2001) Omitting Badii et.al (2008) Omitting Badii et.al (2015) Omitting Majid et.al (2016) Omitting Bouhaha et.al (2016) Omitting Patlanayak et.al (2016) Omitting Patlanayak et.al (2016) Omitting Paramasivam et.al (2010) Omitting Nemoto et.al (2002) (B) Omitting Menoto et.al (2002) (B) Omitting Malecki et.al (2003) Omitting Malecki et.al (2003) Omitting Malecki et.al (2003) Omitting Li et.al (2008) (B) (Kazak) Omitting Li et.al (2008) (B) (Kazak) Omitting Li et.al (2008) (C) (Han) Omitting Li et.al (2008) (C) (Han) Omitting Li et.al (2008) (C) (Han)	Odds	0.84 0.85 0.85 0.84 0.84 0.84 0.84 0.85 0.85 0.85 0.84 0.84 0.83 0.85 0.84 0.84 0.85 0.84 0.85 0.84 0.85 0.84 0.85 0.84 0.85 0.84 0.85 0.84 0.85 0.84 0.85 0.84 0.85 0.84 0.85 0.84 0.85 0.84 0.84 0.85 0.84 0.84 0.84 0.84 0.84 0.85 0.85 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84	[0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,78; 0,93] [0,76; 0,91] [0,77; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,93] [0,77; 0,92] [0,78; 0,93] [0,77; 0,92] [0,78; 0,93] [0,77; 0,92] [0,78; 0,93] [0,77; 0,92] [0,78; 0,93] [0,77; 0,92] [0,78; 0,93] [0,77; 0,92] [0,78; 0,93] [0,77; 0,92] [0,78; 0,93] [0,77; 0,92] [0,78; 0,93] [0,77; 0,92] [0,78; 0,93] [0,77; 0,92] [0,78; 0,93] [0,77; 0,92] [0,78; 0,93] [0,77; 0,92] [0,78; 0,93] [0,77; 0,92] [0,78; 0,93] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,77; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78; 0,92] [0,78
Omitting Li et.al (2008) (B) (Kazak) Omitting Li et.al (2008) (C) (Han) Omitting Hansen et.al (2005) Omitting Meirhaeghe et.al (2000) Omitting Costa et.al (2009) Omitting Gragnoli et.al (2007) Omitting Erdogan et.al (2007) Omitting Tavares et.al (2005) Omitting Tavares et.al (2005)		0.84 0.84 0.84 0.84 0.84 0.84	[0.77; 0.92] [0.77; 0.92] [0.76; 0.92] [0.77; 0.92] [0.77; 0.91] [0.77; 0.92] [0.77; 0.92] [0.76; 0.91] [0.76; 0.91]
Omitting Pei et al (2013) Omitting Mohamed et al (2007) Omitting Namvaran et al (2011) Omitting Tariq et al (2013) Omitting Doney et al (2004) Omitting Doney et al (2004) Omitting Mori et al (2001) Omitting Clement et al (2000) Omitting Avzaletdinova et al (2016) Omitting Kao et al (2003) Omitting Wang et al (2009) Omitting Horiki et al (2004) Omitting Ly et al (2017) Omitting Mancini et al (1999)		0.83 0.85 0.84 0.84 0.85 0.84 0.84 0.84 0.84	[0.76; 0.91] [0.78; 0.92] [0.77; 0.92] [0.77; 0.92] [0.78; 0.93] [0.77; 0.92] [0.77; 0.92]
og mariani ocar (1000)	T	0.03	[, .,]



D

 \mathbf{E}

 \mathbf{F}

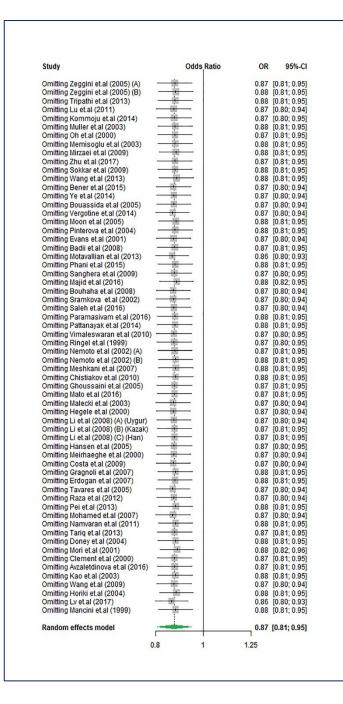


Figure S5. Influence plots of the included studies. "A" represents allele (G vs. C); "B" represents homozygote (GG vs. CC); "C" represents heterozygote (CG vs. CC); "D" represents additive (GG vs. CG); "E" represents dominant (CG+GG vs. CC); "F" represents recessive (GG vs. CC+CG); "G" co-dominant model (CG vs. CC+GG). Vertical and horizontal lines represent ORs and 95% CIs pooled by successively excluding one study in turn. Red stroked diamonds represent the overall estimates (pooled ORs and 95% CIs) of population with fixed effect model, and green stroked diamonds symbolize results pooled with random effects model. 95% CI = 95% confidence interval, OR = odds ratio.