Table S5. Vitamin D cutoff values and the calculated rate of preeclampsia in the included studies.

Author (year)	Vitamin D cutoff	Calculated rate	Confounding factors identified in each studies
Wetta, Biggio et al. (2014)	⩾30	30.3% (33/109)	Age, race/ethnicity, parity, history of a prior preterm birth, maternal weight at first prenatal visit, smoking status, gestational age at which the sample was drawn and time of year specimen obtained
	15-30	33.6% (38/113)	
	<15 ng/ml	40.9% (18/44)	
	(<30 ng/mL)	34.8% (56/157)	
Baker, Haeri et al. (2010)	⩾75	13.8% (22/160)	Season of blood draw, maternal age, multiparity, body mass index, and gestational age at serum collection
	50-75	19.6% (10/51)	
	<50 nmol/liter	36.7% (11/30)	
Zhou, Su et al. (2014)	⩾30	3.51% (13/370)	Maternal age, systolic/diastolic pressure, prepregnancy body mass index and serum calcium
	21-29	3.81% (36/946)	
	<20 ng/mL	3.92% (25/637)	
Schneuer, Roberts et al. (2014)	>75	3.7% (37/999)	Maternal age, parity, smoking during pregnancy, maternal weight, previously diagnosed hypertension, previously diagnosed diabetes, season at sampling, country of birth, or socioeconomic disadvantage
	37.5-75	5.7% (186/3275)	
	<37.5 nmol/L	3.7% (31/835)	
Powe, Seely et al. (2010)	>15	12.5% (5/40)	Body mass index, nonwhite race, and summer blood collection
	<15 ng/mL	26.2% (34/130)	
Baca, Simhan et al. (2016)	>75	20.5% (209/1018)	Year of delivery, laboratory batch number, gestational age and season at blood drawn, race/ethnicity, maternal age, smoking status, prepregnancy BMI, insurance, education, marital status, and parity
	50-75	30.5% (261/856)	
	<50 nmol/L	39.7% (180/453)	
Bodnar, Catov et al. (2007)	>75	14.0% (12/86)	Race/ethnicity, season, sample, gestational age, prepregnancy BMI, and education.
	37.5-75	17.6% (23/131)	
	<37.5 nmol/liter	29.2% (14/48)	
Benachi, Baptiste et al. (2020)	<30	22.6% (69/305)	Parity, maternal age, pre-pregnancy BMI, season of conception, skin color
	⩾30 ng/mL	14.4% (14/97)	
Achkar, Dodds et al. (2015)	⩾50	6.0% (65/1092)	Pre-pregnancy body mass index, parity, maternal age, smoking, season of blood collection, year of blood collection, gestational age at blood collection, and study site
	30-50	9.2% (72/779)	
	⩽30 nmol/L	13.6% (24/177)	
	(<50 nmol/L)	10.0% (96/956)	
Fernández-Alonso, Dionis-Sánchez et al. (2012)	⩾30	1.8% (2/109)	None
	21-29	1.6% (3/191)	
	⩽20 ng/mL	1.2% (2/166)	
Christoph, Challande et al. (2020)	⩾50	1.6% (6/370)	None
	<50 nmol/L	1.8% (18/1012)	
Al-Shaikh, Ibrahim et al. (2016)	⩾30	0% (0/38)	None
	21-29	0% (0/98)	
	⩽20 ng/mL	1.0% (9/864)	
Hemmingway, Kenny et al. (2018)	⩾75	2.3% (10/441)	BMI, maternal age, university education, and supplementation
	<75 nmol/L	3.0% (39/1313)	
Mirzakhani, Litonjua et al. (2016)	<30	34.4% (41/119)	Gravidity, age, race, BMI, study group designation, education level, income, and study center
	⩾30 ng/mL	15.8% (6/38)	
Wei, Audibert et al. (2012)	⩾50	4.0% (17/425)	Maternal age, smoking, prepregnancy body mass index and season of blood draw
	<50 nmol/L	5.5% (15/272)	
Flood-Nichols, Tinnemore et al. (2015)	>30	10.0% (7/70)	BMI, season, ethnicity, and tobacco use
	21-29	7.1% (10/141)	
	<20 ng/mL	8.3% (2/24)	
Shand, Nassar et al.	>75	15.9% (7/44)	Maternal age, ethnicity, parity, BMI, season, multivitamin use and

(2010)	50-75 <50 nmol/liter	6.6% (4/61) 14.7% (17/116)	smoking status
Van Weert, van den Berg et al. (2016)	>50 30-50 <30 nmol/liter	3.4% (43/1263) 4.3% (19/442) 5.4% (20/369)	Age, ethnicity, pre-pregnancy BMI, smoking and years of education after primary school.
Magnus, Miliku et al. (2018)	>75 50-75 <50 nmol/liter	4.4% (54/1232) 5.0% (50/993) 5.0% (55/1098)	Age, parity, pre-pregnancy BMI, education, smoking, calcium level/calcium intake and gestational week of blood sampling
Scholl, Chen et al. (2013)	⩾20.0 < 20.0 ng/mL	5.1% (38/750) 7.9% (31/391)	Age, parity, ethnicity, BMI, smoking, and gestation at entry
Álvarez-Fern á ndez, Prieto et al. (2015)	⩾50 <50 nmol/L	28.6% (6/21) 28.1% (34/121)	Uric acid and aspartate aminotransferase concentrations, multiple gestation and intrauterine growth restriction
Gidlöf, Silva et al. (2015)	⩾50 <50 nmol/L	28.4% (23/81) 18.4% (14/76)	None