

Table S1. Bias risk of included RCTs assessed by Cochrane Collaboration's tool.

Study	Random sequence generation	Allocation concealment	Blinding of participants and researchers	Blinding of outcome assessment	Incomplete outcome data	Selective reporting	Other bias
Feagan et al[9], 2005, Canada	Low risk	Low risk	Low risk	Low risk	Unclear risk	Low risk	Unclear risk
Parikh et al[10], 2012, USA	Low risk	Unclear risk	Low risk	Low risk	Low risk	Low risk	Low risk
Feagan et al[11], 2013, Canada	Low risk	Low risk	Unclear risk	Low risk	Low risk	Low risk	Low risk
Feagan et al[12], 2017, Canada	Low risk	Unclear risk	Unclear risk	Low risk	Unclear risk	Low risk	Unclear risk
Motoya et al[13], 2019, Japan	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Sandborn et al[14], 2020, USA	Low risk	Unclear risk	Unclear risk	Low risk	Unclear risk	Low risk	Unclear risk
Feagan et al[15], 2008, Canada	Low risk	Unclear risk	Low risk	Low risk	Unclear risk	Low risk	Unclear risk
Sandborn et al[16], 2013, USA	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Sands et al[17], 2014, USA	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk
Sands et al[18], 2017, USA	Low risk	Unclear risk	Unclear risk	Low risk	Unclear risk	Low risk	Unclear risk
Watanabe et al[19], 2020, Japan	Low risk	Low risk	Low risk	Low risk	Low risk	Low risk	Unclear risk
Vermeire et al[20], 2022, Belgium	Low risk	Unclear risk	Unclear risk	Low risk	Unclear risk	Low risk	Unclear risk

Table S2. The sensitivity analysis of the relationship between Vedolizumab and treatment of IBD.

Excluded studies	No. of included studies	Heterogeneity		Random-effect model		
		I^2	P_h	RR	95% CI	P
Maintenance phase						
clinical response						
No	8	68.7%	0.002	1.78	(1.40,2.26)	0.000
Feagan et al[11], 2013	7	64.9%	0.009	1.70	(1.33,2.17)	0.000
Motoya et al[13], 2019	7	72.7%	0.001	1.78	(1.36,2.33)	0.000
Sandborn et al[14] (SC), 2020	7	69.7%	0.003	1.72	(1.34,2.23)	0.000
Sandborn et al [14](IV), 2020	7	66.7%	0.006	1.69	(1.33,2.15)	0.000
Sandborn et al[16], 2013	7	72.8%	0.001	1.87	(1.40,2.53)	0.000
Sands et al[18], 2017	7	73.0%	0.001	1.85	(1.40,2.46)	0.000
Watanabe et al[19], 2020	7	70.0%	0.003	1.74	(1.38,2.20)	0.000
Vermeire et al[20], 2022	7	41.1%	0.117	1.91	(1.56,2.34)	0.000
IBD exacerbation						
No	9	64.6%	0.004	0.60	(0.39,0.93)	0.023
Feagan et al[9], 2005	8	51.5%	0.044	0.53	(0.34,0.83)	0.006
Motoya et al[13], 2019 (Induction)	8	68.5%	0.002	0.57	(0.36,0.90)	0.017
Motoya et al[13], 2019 (Maintenance)	8	67.5%	0.003	0.62	(0.40,0.98)	0.041
Sandborn et al[14], 2020	8	60.6%	0.013	0.65	(0.41,1.04)	0.072
Feagan et al[15], 2008	8	67.8%	0.003	0.54	(0.33,0.90)	0.018
Sands et al[17], 2014	8	60.0%	0.015	0.67	(0.44,1.04)	0.072
Watanabe et al[19], 2020 (Induction)	8	57.5%	0.021	0.68	(0.46,1.01)	0.057
Watanabe et al[19], 2020 (Maintenance)	8	68.8%	0.002	0.60	(0.38,0.95)	0.029
Vermeire et al[20], 2022	8	69.1%	0.002	0.55	(0.32,0.96)	0.034
UC exacerbation						
No	4	71.6%	0.014	0.69	(0.34,1.41)	0.310
Feagan et al[9], 2005	3	10.8%	0.326	0.48	(0.27,0.84)	0.010

Motoya et al[13], 2019 (Induction)	3	80.5%	0.006	0.61	(0.26,1.45)	0.261
Motoya et al[13], 2019 (Maintenance)	3	78.4%	0.010	0.78	(0.35,1.72)	0.529
Sandborn et al[14], 2020	3	12.0%	0.321	1.02	(0.63,1.65)	0.936
CD exacerbation						
No	5	63.9%	0.026	0.51	(0.27,0.99)	0.047
Feagan et al[15], 2008	4	66.4%	0.030	0.38	(0.16,0.94)	0.036
Sands et al[17], 2014	4	56.2%	0.077	0.63	(0.32,1.23)	0.177
Watanabe et al[19], 2020 (Induction)	4	46.6%	0.132	0.66	(0.39,1.13)	0.127
Watanabe et al[19], 2020 (Maintenance)	4	72.8%	0.012	0.50	(0.24,1.04)	0.065
Vermeire et al[20], 2022	4	69.2%	0.021	0.40	(0.14,1.09)	0.074
IBD exacerbation (induction)						
No	5	75.7%	0.002	0.62	(0.30,1.28)	0.198
Feagan et al[9], 2005	4	72.4%	0.013	0.49	(0.19,1.27)	0.143
Motoya et al[13], 2019	4	81.7%	0.001	0.54	(0.23,1.27)	0.159
Feagan et al[15], 2008	4	82.0%	0.001	0.51	(0.17,1.49)	0.216
Sands et al[17], 2014	4	66.0%	0.032	0.80	(0.40,1.58)	0.514
Watanabe et al[19], 2020	4	65.0%	0.036	0.81	(0.44,1.49)	0.494
Adverse event						
Nasopharyngitis (maintenance)						
No	3	70.0%	0.036	1.38	(0.64,2.97)	0.416
Motoya et al[13], 2019	2	75.8%	0.042	1.13	(0.37,3.41)	0.836
Sandborn et al[14], 2020	2	0.0%	0.987	2.04	(1.20,3.48)	0.009
Vermeire et al[20], 2022	2	81.4%	0.020	1.17	(0.39,3.50)	0.782
Mucosal healing (UC)						
No	4	68.4%	0.023	1.78	(1.27,2.51)	0.001
Feagan et al[11], 2013 (induction)	3	78.3%	0.010	1.84	(1.11,3.06)	0.019
Motoya et al[13], 2019 (induction)	3	51.7%	0.126	2.03	(1.48,2.80)	0.000
Feagan et al[11], 2013 (maintenance)	3	20.3%	0.285	1.53	(1.19,1.96)	0.001
Motoya et al[13], 2019 (maintenance)	3	78.8%	0.009	1.75	(1.12,2.74)	0.014