Supplementary Table 1. Comparison of patient demographics and disease characteristics between patients in and not in clinical remission at time of therapeutic drug monitoring for vedolizumab. FDR, false discovery rate.

	Clinical Remission (n=57)	**Not in Clinical Remission (n=16)**	**p-value**	**FDR p-value**
Median age, years (IQR)	37.8 (27.3-57.9)	32.8 (27.2-53.4)	0.59	0.79
Male gender, n (%)	32 (56.1)	7 (43.8)	0.38	0.67
Median disease duration, years (IQR)	11.9 (7.0-18.9)	15 (8.8-26.3)	0.31	0.64
Diagnosis of CD, n (%)	31 (54.4)	12 (75.0)	0.50	0.78
Active smoking, n (%)	6 (10.5)	2 (12.5)	0.82	0.96
Previous anti-TNF exposure, n (%)	27 (47.4)	13 (81.3)	**0.02**	0.14
Concomitant immunomodulator, n (%)	11 (19.3)	4 (25.0)	0.62	0.79
Median duration on vedolizumab, years (IQR)	1.6 (0.8-2.1)	1.4 (0.9-2.5)	0.97	0.97
4-weekly dosing, n (%)	7 (12.3)	7 (43.8)	**<0.01**	**<0.01**
Median BMI (IQR)	25.4 (22.7-29.0)	25.7 (18.7-32.8)	0.97	0.97
Median Albumin, g/dL (IQR)	36.0 (34.0-38.0)	34.0 (31.3-36.8)	**0.04**	0.19
Median CRP, mg/L (IQR)	3.0 (1.0-4.5)	4.0 (1.3-11.0)	0.17	0.60
Median FC, µg/g (IQR)	62.0 (20.0-447.0)	130.0 (55.5-529.3)	0.32	0.64
Biologic remission, n (%)	33 (57.9)	7 (43.8)	0.32	0.64

Supplementary Table 2. Comparison of patient demographics and disease characteristics between patients in and not in biologic remission at time of therapeutic drug monitoring for vedolizumab. FDR, false discovery rate.

	Biologic Remission (n=40)	**Not in Biologic Remission (n=33)**	**p-value**	**FDR p-value**
Median age, years (IQR)	34.5 (25.8-49.6)	40.8 (29.0-62.1)	0.32	0.48
Male gender, n (%)	19 (47.5)	20 (60.6)	0.26	0.48
Median disease duration, years (IQR)	12.5 (8.2-20.8)	8.9 (6.4-18.9)	0.44	0.54
Diagnosis of CD, n (%)	22 (55.0)	21 (63.6)	0.45	0.54
Active smoking, n (%)	3 (7.5)	5 (15.2)	0.30	0.48
Previous anti-TNF exposure, n (%)	22 (55.0)	18 (54.5)	0.97	0.97
Concomitant immunomodulator, n (%)	5 (12.5)	10 (30.3)	0.06	0.24
Median duration on vedolizumab, years (IQR)	1.6 (1.0-2.3)	1.3 (0.7-1.9)	0.12	0.36
4-weekly dosing, n (%)	3 (7.5)	11 (33.3)	**<0.01**	**<0.01**
Median BMI (IQR)	25.0 (22.5-29.0)	26.2 (22.3-31.7)	0.82	0.90
Median Albumin, g/dL (IQR)	37.5 (35.3-39.0)	35.0 (32.0-36.0)	**<0.01**	**<0.01**
Clinical remission, n (%)	33 (82.5)	24 (72.7)	0.32	0.48

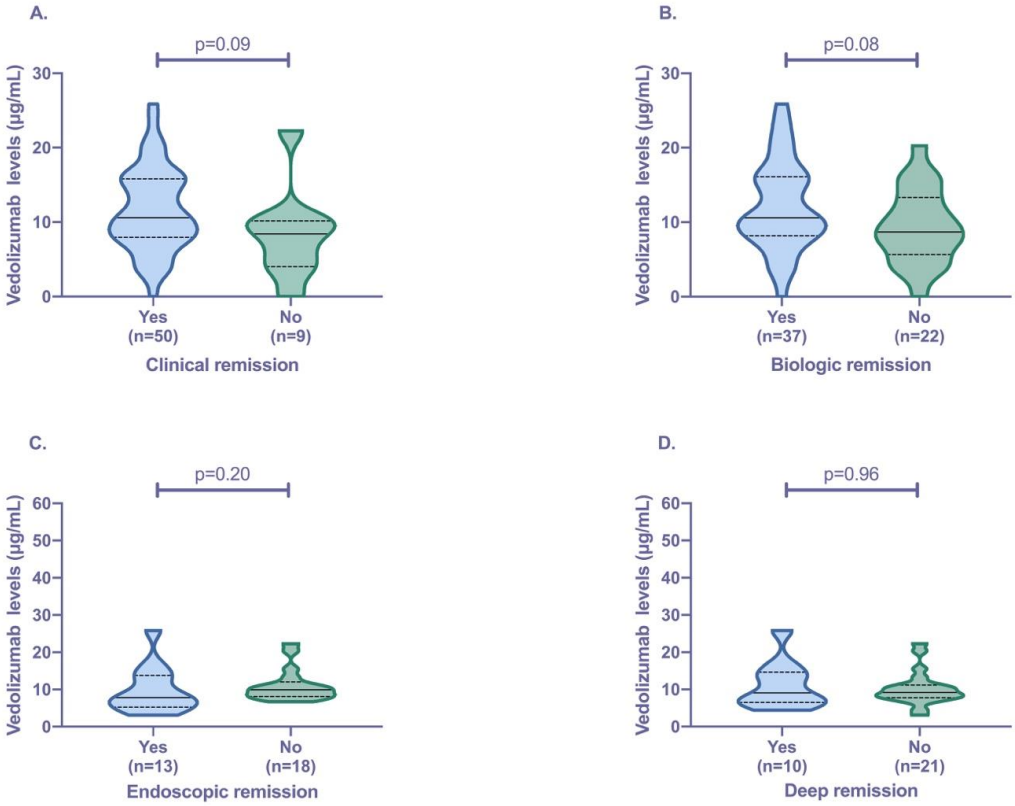
Supplementary Table 3. Comparison of patient demographics and disease characteristics between patients in and not in endoscopic remission +/- 8 weeks from therapeutic drug monitoring for vedolizumab. FDR, false discovery rate.

	Endoscopic Remission (n=14)	**Not in Endoscopic Remission (n=26)**	**p-value**	**FDR p-value**
Median age, years (IQR)	43.2 (31.0-60.8)	35.9 (28.7-61.7)	0.66	0.78
Male gender, n (%)	7 (50.0)	13 (50.0)	0.99	0.99
Median disease duration, years (IQR)	15.9 (10.0-19.9)	12.0 (5.9-29.0)	0.43	0.77
Diagnosis of CD, n (%)	6 (42.9)	16 (61.5)	0.26	0.56
Active smoking, n (%)	1 (7.1)	6 (23.1)	0.21	0.56
Previous anti-TNF exposure, n (%)	8 (57.1)	16 (61.5)	0.79	0.86
Concomitant immunomodulator, n (%)	5 (35.7)	5 (19.2)	0.25	0.56
Median duration on vedolizumab, years (IQR)	1.1 (0.6-2.0)	1.4 (0.8-2.3)	0.63	0.78
4-weekly dosing, n (%)	1 (7.1)	8 (30.8)	0.09	0.56
Median BMI (IQR)	26.7 (24.0-40.0)	25.0 (22.2-30.0)	0.13	0.56
Median Albumin, g/dL (IQR)	35.5 (33.8-37.3)	34.5 (32.8-37.0)	0.48	0.77
Clinical remission, n (%)	10 (71.4)	16 (61.5)	0.53	0.77
Biologic remission, n (%)	12 (85.7)	7 (26.9)	**<0.01**	**<0.01**

Supplementary Table 4. Comparison of patient demographics and disease characteristics between patients in and not in deep remission +/- 8 weeks from therapeutic drug monitoring for vedolizumab. FDR, false discovery rate.

	Deep Remission (n=10)	**Not in Deep Remission (n=30)**	**p-value**	**FDR p-value**
Median age, years (IQR)	52.0 (31.0-67.6)	35.9 (29.0-60.3)	0.38	0.65
Male gender, n (%)	6 (60.0)	7 (23.3)	**0.03**	0.15
Median disease duration, years (IQR)	16.3 (10.9-19.9)	12.0 (6.7-28.3)	0.49	0.65
Diagnosis of CD, n (%)	3 (30.0)	20 (66.7)	**0.04**	0.15
Active smoking, n (%)	1 (10.0)	3 (10.0)	0.99	0.99
Previous anti-TNF exposure, n (%)	4 (40.0)	20 (66.7)	0.14	0.34
Concomitant immunomodulator, n (%)	3 (30.0)	7 (23.3)	0.67	0.80
Median duration on vedolizumab, years (IQR)	1.3 (0.6-2.0)	1.3 (0.7-2.3)	0.94	0.99
4-weekly dosing, n (%)	0	9 (30.0)	**0.049**	0.15
Median BMI (IQR)	25.8 (23.1-41.4)	25.1 (22.4-30.7)	0.48	0.65
Median Albumin, g/dL (IQR)	35.0 (33.8-38.0)	35.0 (32.8-36.3)	0.38	0.65
Biologic remission, n (%)	9 (90.0)	10 (33.3)	**<0.01**	**0.02**

Supplementary Figure 1. Association of trough vedolizumab levels with (**A**) clinical remission; (**B**) biologic remission; (**C**) endoscopic remission; and (**D**) deep remission after omitting patients on 4-weekly dosing. Violin plots show median (solid line), interquartile range (dotted line), maximum and minimum.



Supplementary Figure 2. Association of trough vedolizumab levels with (**A**) biologic remission defined as CRP< 5mg/L plus faecal calprotectin <150 µg/g and (**B**) biologic remission defined as CRP< 5mg/L plus faecal calprotectin <50 µg/g. Violin plots show median (solid line), interquartile range (dotted line), maximum and minimum.