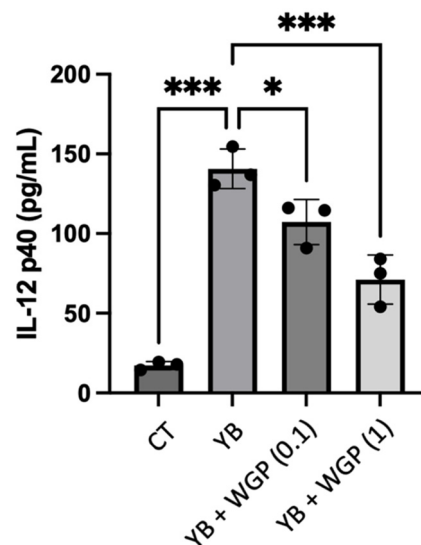
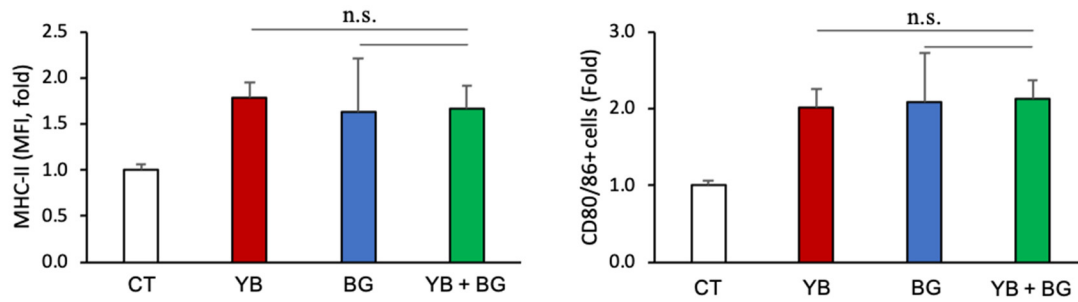


Supplementary Figure S1. Effect of young barley leaf powder (Powder, 5 mg/mL) or YB (3.7 mg/mL) on the BMDCs. (A, B) The percentage of CD80/86 positive cells in CD11c⁺ BMDCs (n = 3). (C, D) The expression of MHC-II in CD11c⁺ BMDCs (n = 4). the mean \pm SD. Dunnett's multiple comparison test was used for the statistical analysis. * $p < 0.05$; ** $p < 0.01$ versus CT.



Supplementary Figure S2. Effect of Dectin-1 antagonist (WGP: 0.1 or 1 mg/mL) on IL-12 p40 production from BMDCs with YB treatment (n = 3). IL-12 p40 was measured by ELISA. Tukey's HSD post-hoc one-way ANOVA was performed for statistical analysis. * $p < 0.05$; *** $p < 0.001$.



Supplementary Figure S3. Effect of YB and Dectin-1 agonist (b-glucan: BG, 10 mg/mL) on MHC-II and CD80/86 expression in BMDCs (n = 3). Tukey's HSD post-hoc one-way ANOVA was performed for statistical analysis. n.s.: not significant.

Supplementary Table S1. α -diversity and statistical values.

	CT	YB	H	<i>p</i> -value	<i>q</i> -value
shannon	4.626±0.209	4.939±0.189	0.833	0.361	0.361
obeseved_features	131.4±16.65	158.12±12.16	1.200	0.273	0.273
faith_pd	10.44±0.650	11.63±0.380	1.633	0.201	0.201
evenness	0.662±0.011	0.677±0.020	0.300	0.584	0.584
chao1	134.2±17.06	160.2±12.35	0.837	0.360	0.360

Supplementary Table S2. Statistical values at phylum level. **q* < 0.05

Phylum	<i>p</i> -value	<i>q</i> -value
Firmicutes	0.518	0.865
Bacteroidota (Bacteroidetes)	0.972	0.972
Desulfo bacterota	0.931	0.972
Deferribacterota	0.0329	0.098
Actinobacteriota	0.577	0.865
Proteobacteria	0.00728	0.043*