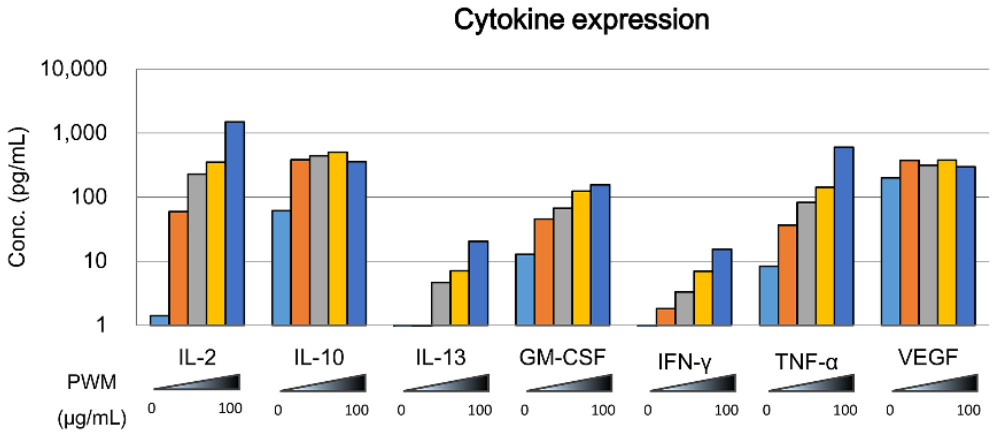
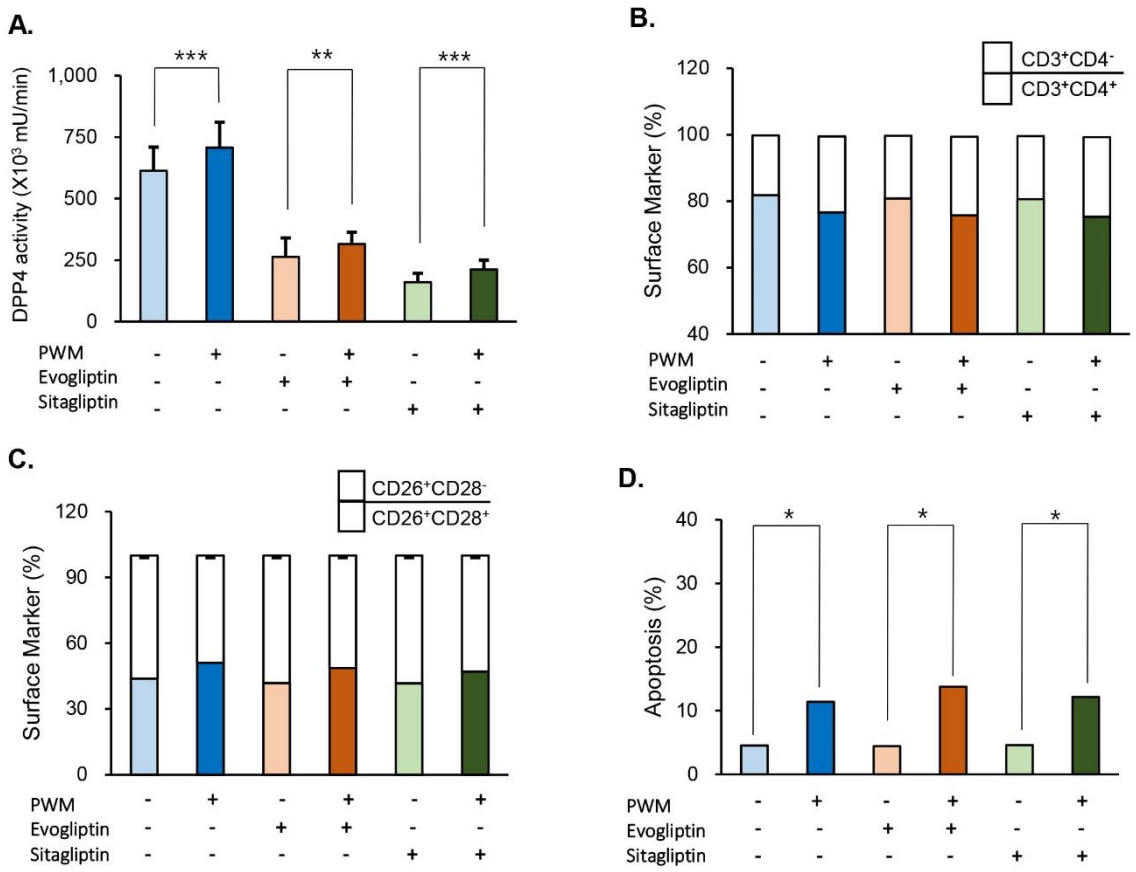
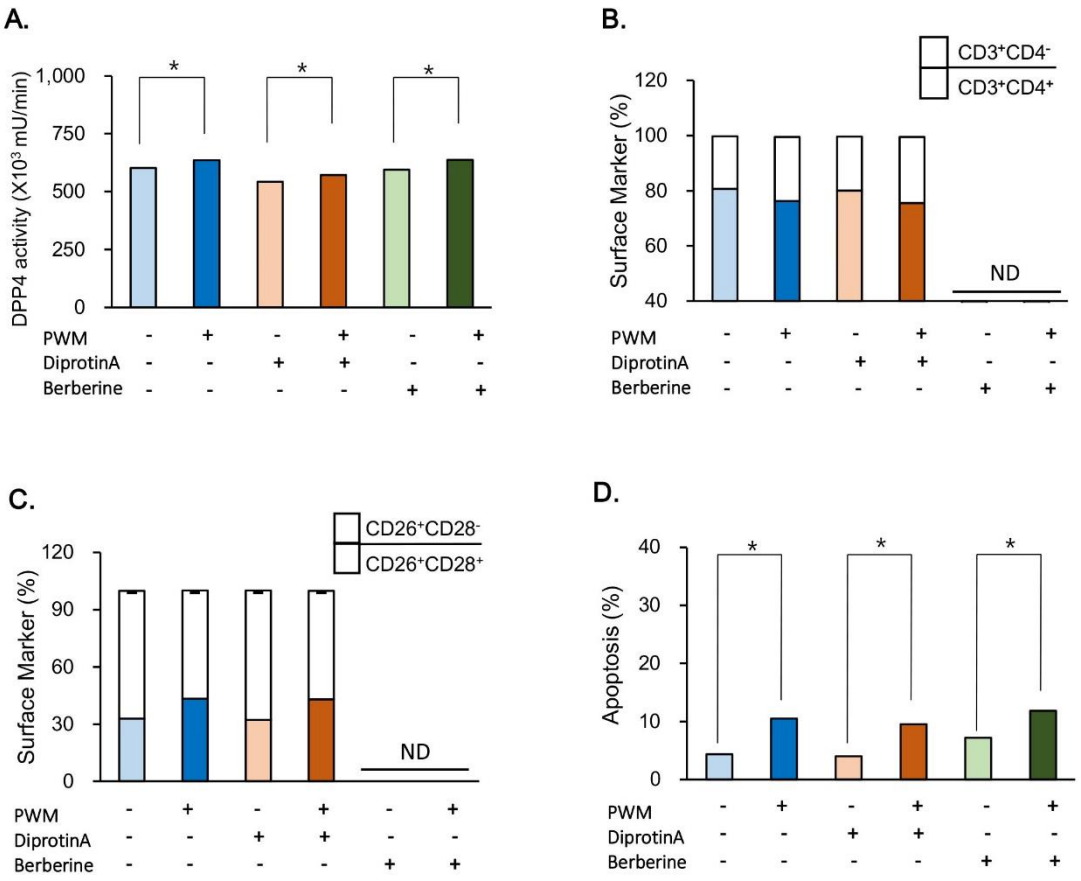


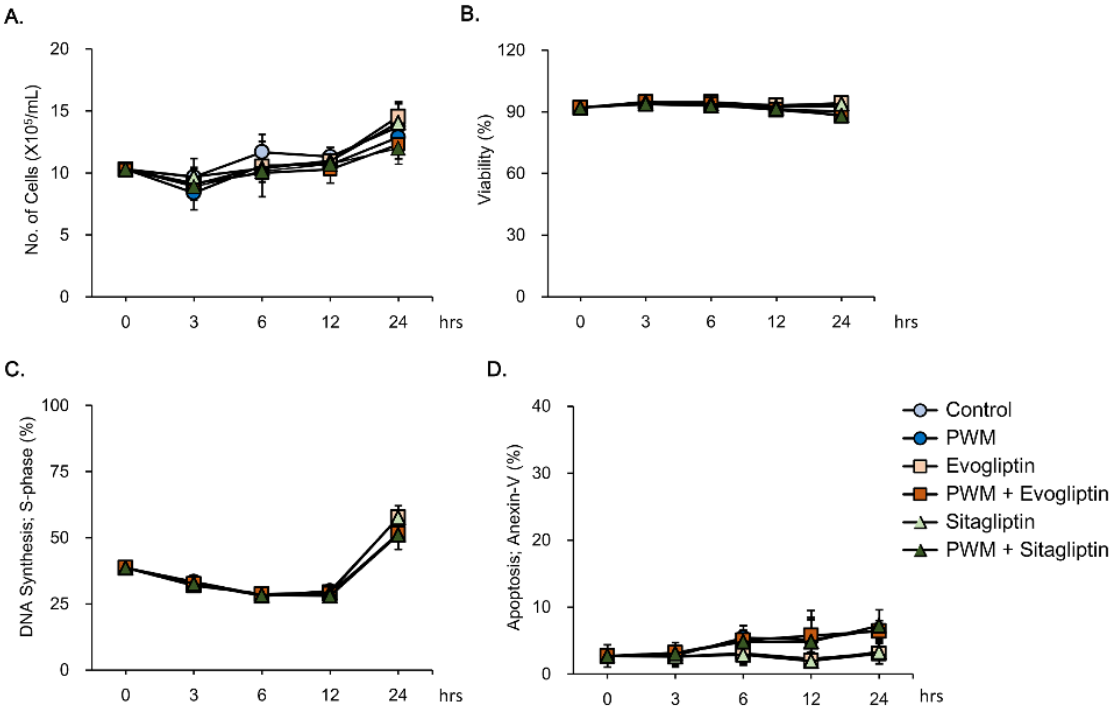
Supplementary Fig. S1. Dose-dependent induction of Th1-specific cytokines by PWM in H9 Th1 cells. H9 Th1 cells were stimulated for 24 h with PWM at a dose range of 0, 2, 5, 10, and 100 μg/mL; then, the culture supernatants were harvested. The values of T helper cell-specific cytokines, including IL-2, IL-10, IL-13, IFN-γ, TNF-α, and GM-CSF, and an angiogenic cytokine VEGF in the culture supernatants were simultaneously quantified using fluorescent multiplex bead assays. Each value indicates the means and standard deviation from more than three independent batches.



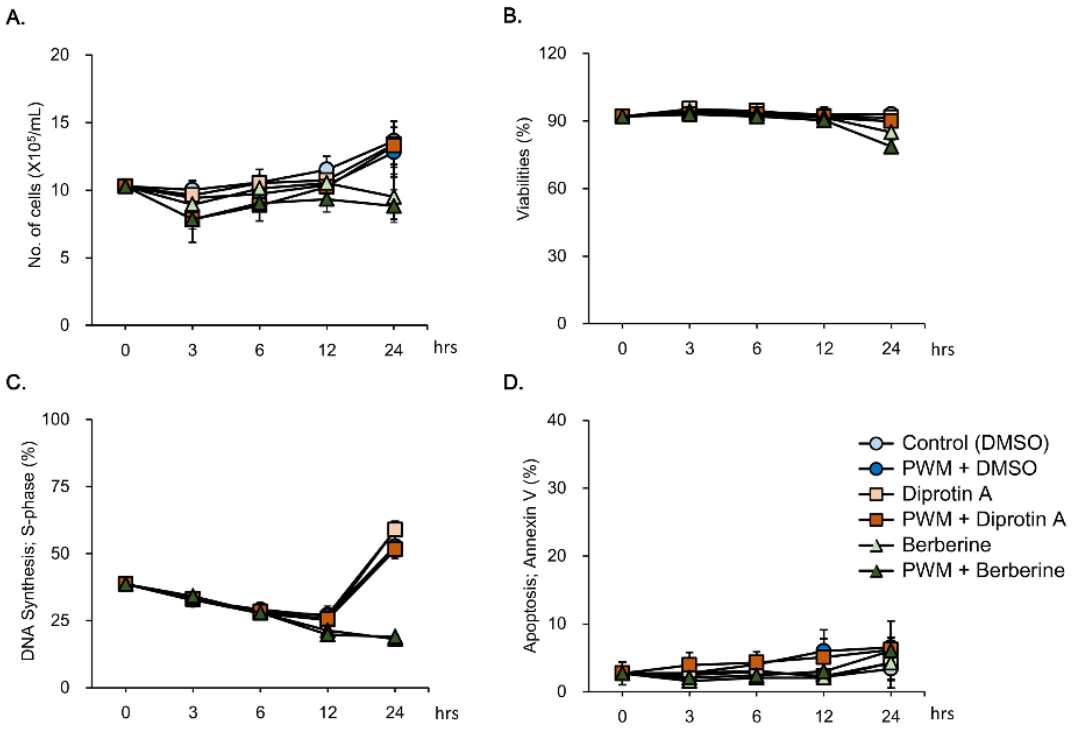
Supplementary Fig. S2. Effects of PWM on surface markers, apoptosis, mDPP4 enzymatic activity, and cell profiles of H9 Th1 cells co-treated with the antidiabetic drugs and PWM. H9 Th1 cells were treated with 10 μg/mL PWM in the absence and presence of an antidiabetic drug, evogliptin (2 ng/mL) or sitagliptin (2 μg/mL) for 12 h. The mDPP4 enzymatic activity was measured over time using a fluorogenic enzymatic assay (A). The Th1-specific surface markers for CD3, CD4, CD26, and CD28 were analyzed in PWM-treated or PWM- and antidiabetic drug-co-treated cells using flow cytometry (B, C), as shown in Fig. 1E. The total apoptosis in these cells was determined using an annexin V apoptosis detection kit, as shown in Fig. 1F (D). All analyses were performed in three different batches, and the data are presented as the means and standard deviation. *, $P < 0.05$; **, $P < 0.005$; and ***, $P < 0.001$ (paired *t*-test).



Supplementary Fig. S3. Effects of PWM on the surface markers, apoptosis, mDPP4 enzymatic activity, and cell profiles of H9 Th1 cells co-treated with DPP4 inhibitors and PWM. H9 Th1 cells were treated with PWM (10 μg/mL) or with PWM and a maximum dose of DPP4 inhibitors (20 μg/mL) for 12 h. The mDPP4 enzymatic activity was measured (A). The Th1-specific surface markers for CD3, CD4, CD26, and CD28 were analyzed in only PWM-treated or PWM and DPP4 inhibitor co-treated cells (B, C), as shown in Fig. 1E, but the berberine-treated cells were excluded from the data because the drug interfered with the surface marker dye (ND, not detected). The total apoptosis in these cells was determined using an annexin V apoptosis detection kit (D). All analyses were performed in the same manner as that described in Supplementary Fig. S2. *, $P < 0.05$ (paired *t*-test)



Supplementary Fig. S4. Time-course effects of evogliptin and sitagliptin on the cell profiles of H9 Th1 cells. H9 Th1 cells were stimulated for 3 h to 24 h with various combinations of DPBS, PWM (10 μg/mL), and the antidiabetic drugs evogliptin (2 ng/mL) or sitagliptin (2 μg/mL); they were prepared simultaneously in the same batch as shown in Fig. 4. The cell number and viability of the collected cells were determined using an automatic cell counter by using PI staining (A, B). Cell cycle progression, including DNA synthesis, was determined using DNA-staining solution containing PI using flow cytometry (C). Total apoptosis was measured using an annexin V apoptosis detection kit (D). These assays were instantly performed at each time points. The results were obtained from three independent batches, and the means and standard deviation are displayed.



Supplementary Fig. S5. Time-course effects of diprotin A and berberine on the cell profiles of H9 Th1 cells. H9 Th1 cells were stimulated for 3 h to 24 h with various combinations of DMSO, PWM (10 μg/mL), and the DPP4 inhibitors diprotin A (20 μg/mL) or berberine (20 μg/mL) in the same batch as in Fig. 5. The cell number and viability of the harvested cells were determined (A, B). Cell cycle progression, including DNA synthesis, was determined (C). Total apoptosis was measured using an annexin V apoptosis detection kit (D). All analyses were performed in the same manner as that described in Supplementary Fig. S4.