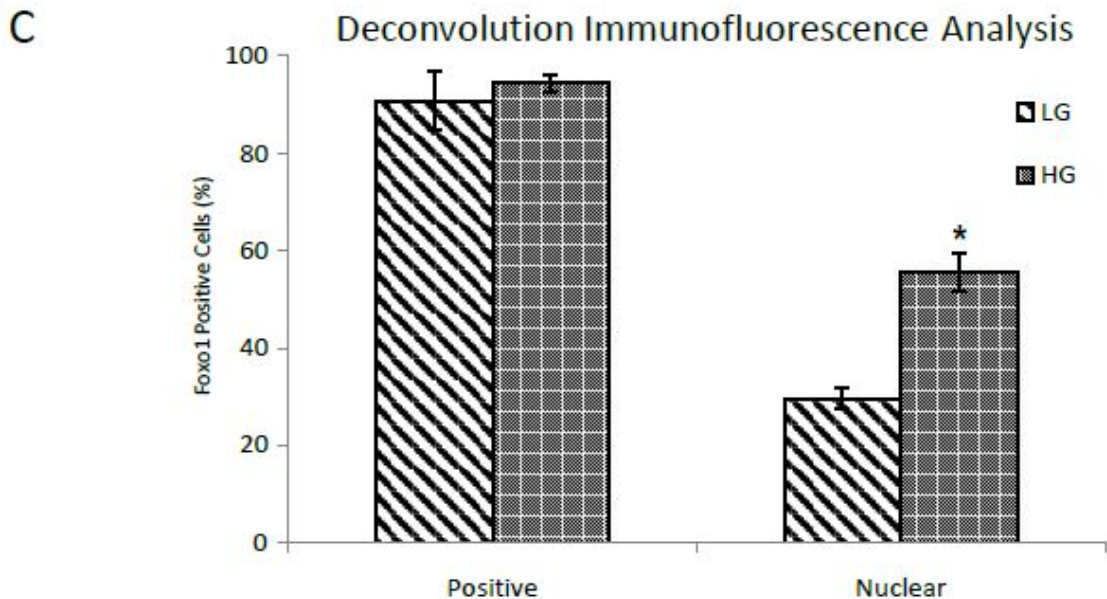
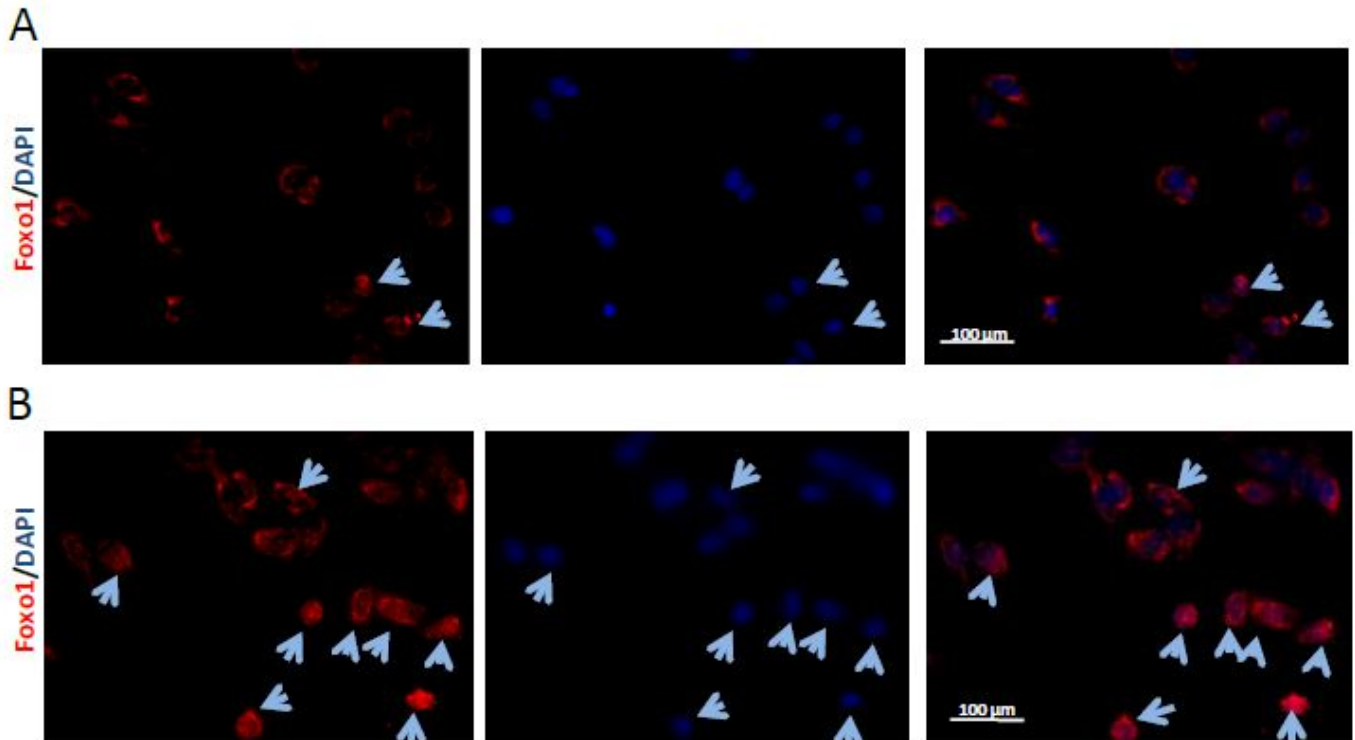


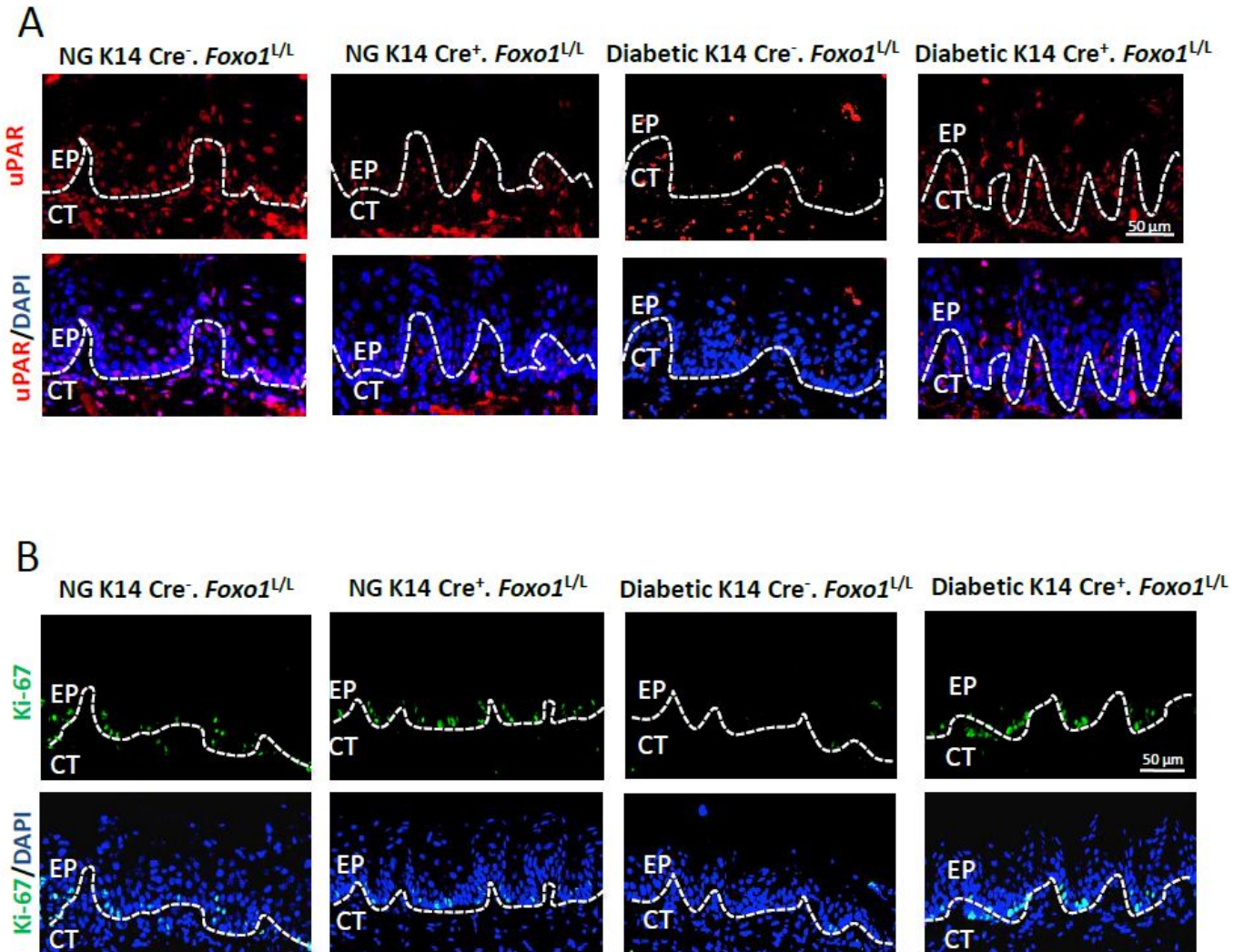
SUPPLEMENTARY DATA

Supplementary Figure 1. Represented images for subcellular localization of Foxo1. Fluorescent deconvolution microscopy was performed with images taken along the Z axis in 1.8 μm increments, and nuclear translocation of Foxo1 was determined by colocalization with DAPI. **A:** Representative images of Foxo1 immunofluorescence at a midpoint of primary human mucosal epithelial cells (along the Z axis) in standard glucose conditions. **B:** Representative images of Foxo1 immunofluorescence at a midpoint of primary human mucosal epithelial cells (along the Z axis) in high glucose conditions. **C:** Quantification of Foxo1 nuclear localization in primary human mucosal epithelial cells cultured in standard or high glucose media with deconvolution immunofluorescence analysis. Arrows in figures indicate the cells with nuclear localized Foxo1. $*P < 0.05$ vs. matched cells cultured in standard glucose. Each value represents the mean \pm SEM of 3 independent experiments.



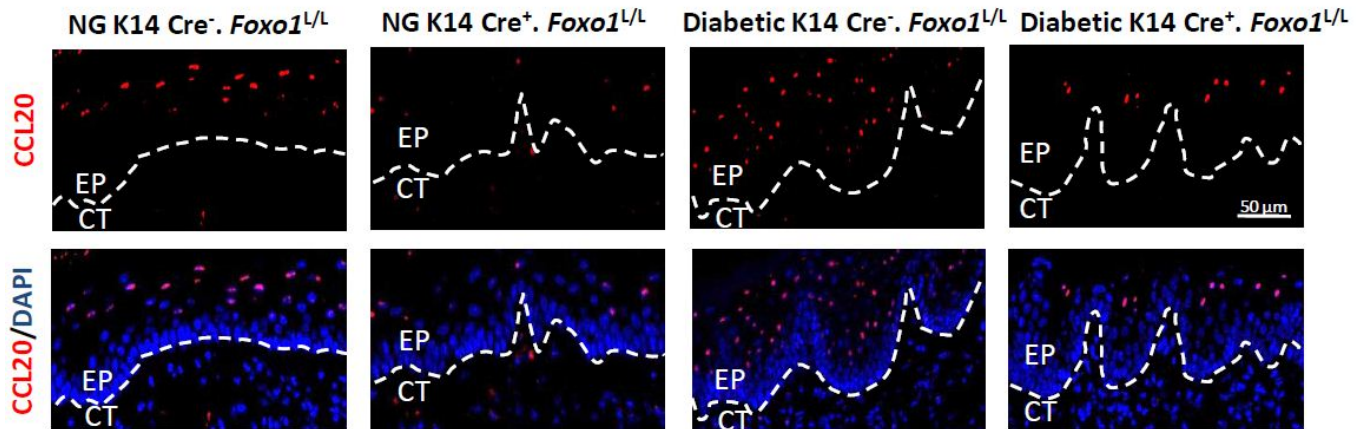
SUPPLEMENTARY DATA

Supplementary Figure 2. Keratinocyte-specific deletion of Foxo1 increases mucosal epithelial migration and proliferation in diabetic mice or high glucose media but not normal conditions. Representative immunofluorescence images of uPAR (A) and Ki-67 (B) immunopositive cells in the healing mucosal epithelium of wounded tongues of diabetic and normoglycemic experimental (K14.Cre⁺.Foxo1^{L/L}) and control (K14.Cre⁻.Foxo1^{L/L}) mice one day after wounding. EP= epithelial surface; CT=connective tissue; white dashed lines demarcate the epithelium from the dermis.



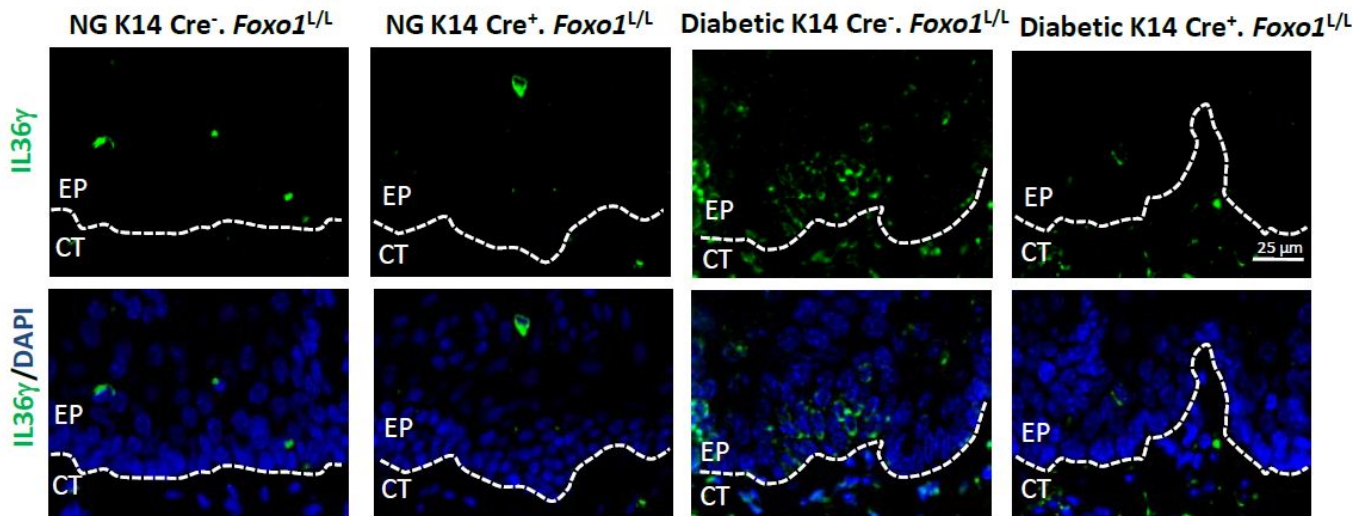
SUPPLEMENTARY DATA

Supplementary Figure 3. Immunofluorescent images of CCL20 in the healing mucosa of wounded tongues of diabetic and normoglycemic experimental (K14.Cre⁺.Foxo1^{L/L}) and control (K14.Cre⁻.Foxo1^{L/L}) mice one day after wounding. EP= epithelial surface; CT=connective tissue; white dashed lines demarcate the epithelium from the dermis.



SUPPLEMENTARY DATA

Supplementary Figure 4. Immunofluorescent images of IL-36 γ in the healing mucosa of wounded tongues of diabetic and normoglycemic experimental (K14.Cre⁺.Foxo1^{L/L}) and control (K14.Cre⁻.Foxo1^{L/L}) mice one day after wounding. EP= epithelial surface; CT=connective tissue; white dashed lines demarcate the epithelium from the dermis.



SUPPLEMENTARY DATA

Supplementary Table 1. Alteration of blood glucose levels of mice after streptozotocin and citrate buffer injection.

Groups	Blood Glucose (mg/dl)		
	1 st Week after STZ injection	2 nd Week after STZ injection	3 rd Week after STZ injection
NG K14.Cre ⁻ .Foxo1 ^{L/L}	138.00 ± 5.82	146.75 ± 9.23	142.50 ± 11.78
NG K14.Cre ⁺ .Foxo1 ^{L/L}	119.25 ± 10.27	135.25 ± 10.51	133.25 ± 12.65
Diabetic K14.Cre ⁻ .Foxo1 ^{L/L}	279.15 ± 31.77*	369.77 ± 29.37*	382.18 ± 27.89*
Diabetic K14.Cre ⁺ .Foxo1 ^{L/L}	262.38 ± 35.24*	393.82 ± 25.48*	388.29 ± 29.67*

* $P < 0.05$ vs. control (K14.Cre⁻.Foxo1^{L/L}) mice with citrate buffer injection at each time point.

SUPPLEMENTARY DATA

Supplementary Table 2. Genes list that up-regulated in high glucose conditions and down-regulated by Foxo1 knockdown in normal human epidermal keratinocytes.

Gene Name	HG Scramble siRNA vs. LG Scramble siRNA		LG Foxo1 siRNA vs. LG Scramble siRNA		HG Foxo1 siRNA vs. HG Scramble siRNA	
	<i>P</i> value	Ratio	<i>P</i> value	Ratio	<i>P</i> value	Ratio
Chemokine (C-C motif) ligand 20 (CCL20)	0.045	2.798	0.154	0.497	0.004	0.185
Interleukin-36 γ (IL-36 γ)	0.039	1.427	0.022	0.667	0.001	0.481
Interleukin 1 receptor-like 1 (IL1RL1)	0.007	1.810	0.011	0.577	0.001	0.327
Interleukin 8 (IL-8)	0.023	1.775	0.019	0.549	0.001	0.314
Serpin peptidase inhibitor, clade B (ovalbumin), member 2 (SerpinB2)	0.045	1.706	0.001	0.239	0.001	0.114
Matrix metalloproteinase 9 (MMP9)	0.034	2.264	0.125	0.570	0.002	0.250
Interleukin 7 receptor (IL7R)	0.005	3.079	0.080	0.537	0.001	0.167
Tumor necrosis factor, alpha-induced protein 6 (TNFAIP6)	0.007	2.136	0.265	0.766	0.001	0.383