



**Fig.S5** Cell cycle metrics on human EMPD cells. **a-b** Cell cycle states in human scrotal EMPD skin epithelial cells projected on UMAP. Cells in S phase are colored black, G2/M phase – blue and G1 phase – light grey. Proportion of cell cycle stages per cell community. **c-d** Expression of Ki67 protein in the epidermal layer of human scrotal normal and EMPD skin tissue. Ki67 is expressed in seldom Paget cells of EMPD skin. Representative images are shown.