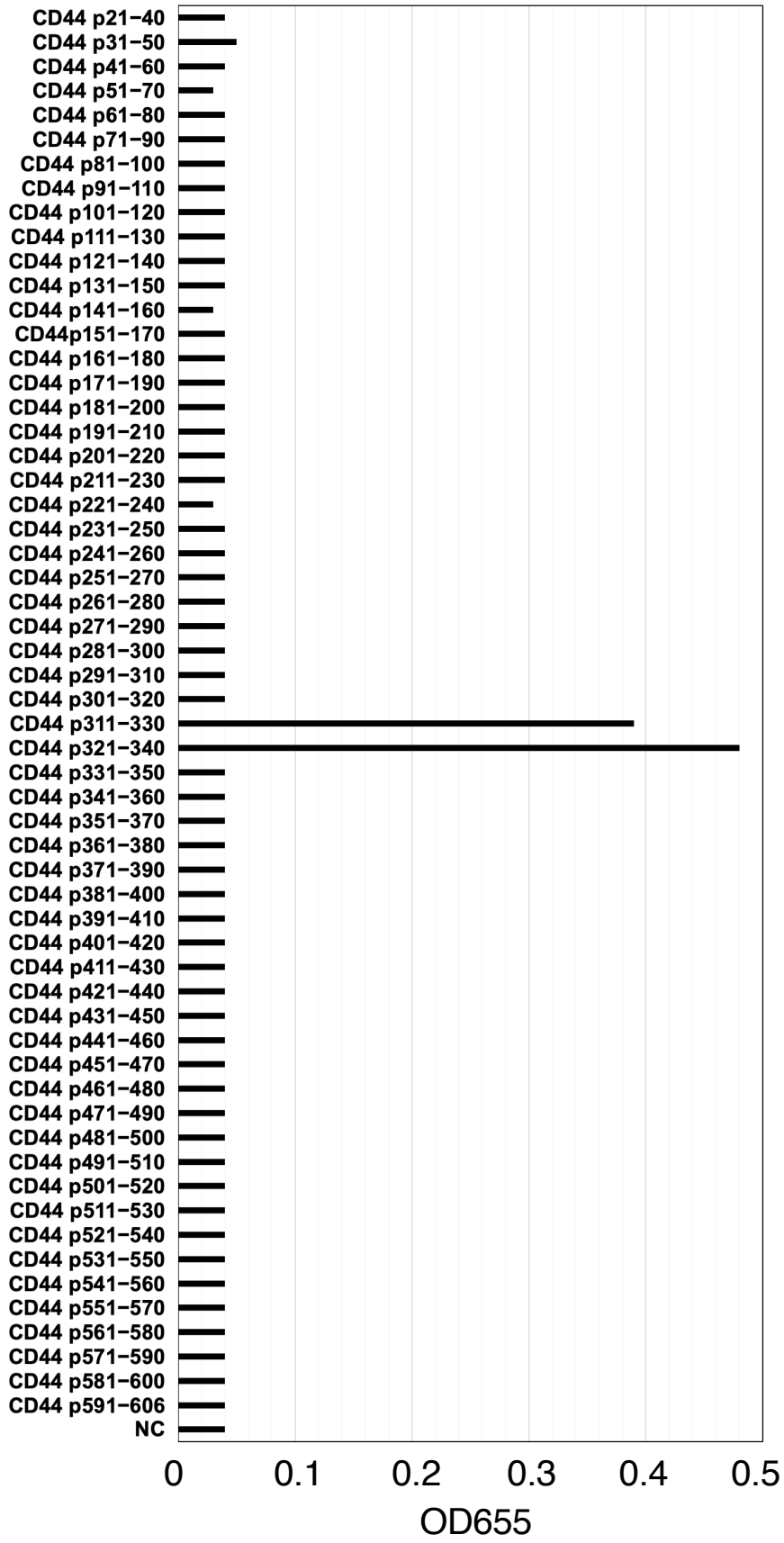
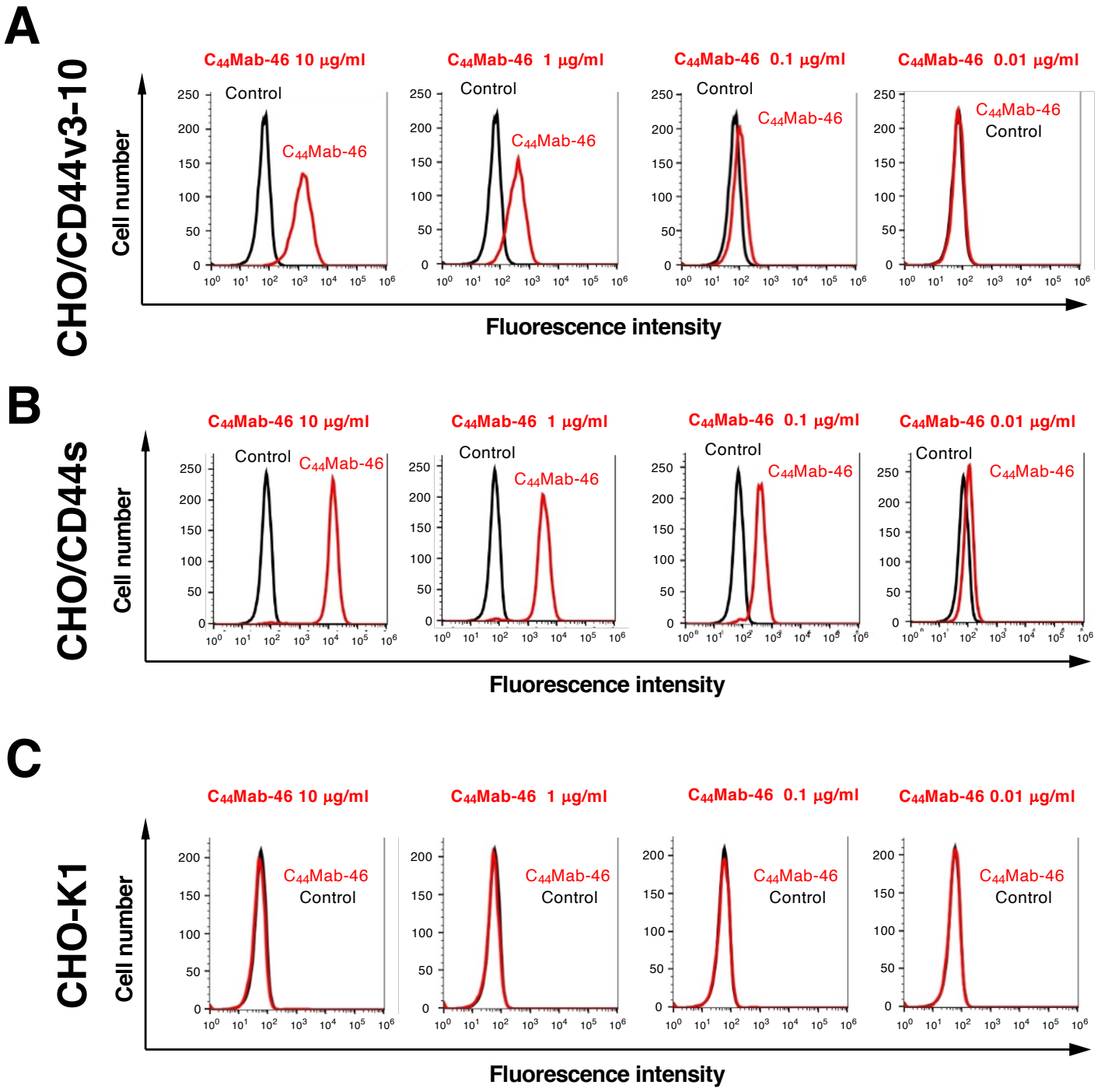
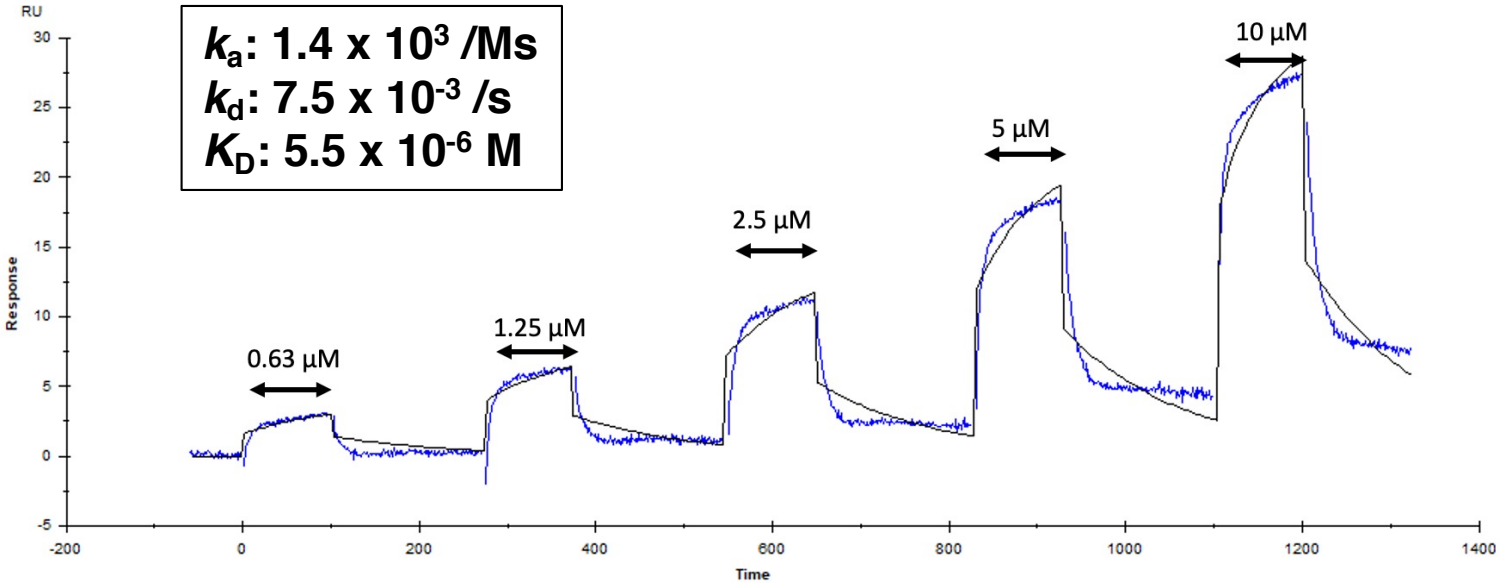



**Supplementary Figure S1 Determination of $C_{44}$Mab-3 epitope by ELISA.** Fifty-eight synthesized peptides, which cover the CD44v3–10 extracellular domain, were immobilized on immunoplates. The plates were incubated with $C_{44}$Mab-3, followed by incubation with peroxidase-conjugated anti-mouse immunoglobulins. Optical density was measured at 655 nm. ELISA, enzymelinked immunosorbent assay. NC, negative control (solvent; DMSO in PBS).



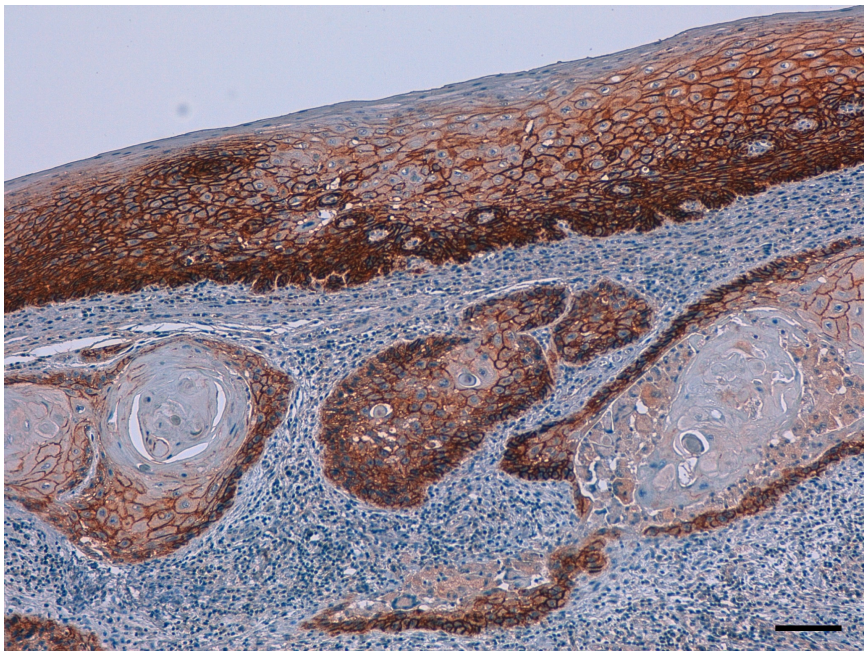

**Supplementary Figure S2 Recognition of CHO/CD44s and CHO/CD44v3-10 by $C_{44}$Mab-46 using flow cytometry.** CHO/CD44v3-10 (A), CHO/CD44s (B), and CHO-K1 (C) were treated with 0.01-10 $\mu$g/mL of $C_{44}$Mab-46, followed by treatment with Alexa Fluor 488-conjugated anti-mouse IgG (Red line). The black line represents the negative control (blocking buffer).

CD44p311-330

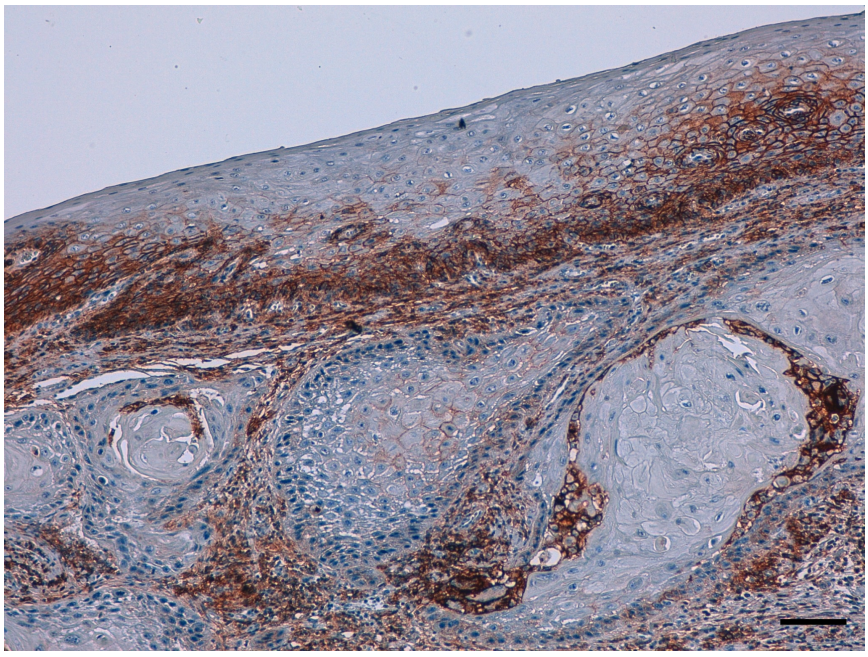



**Supplementary Figure S3 Measurement of dissociation constants ($K_D$) between $C_{44}$Mab-3 and the epitope peptide using SPR.**
The binding kinetics and measured values of $C_{44}$Mab-3 with CD44p311-330 peptide. SPR, surface plasmon resonance.

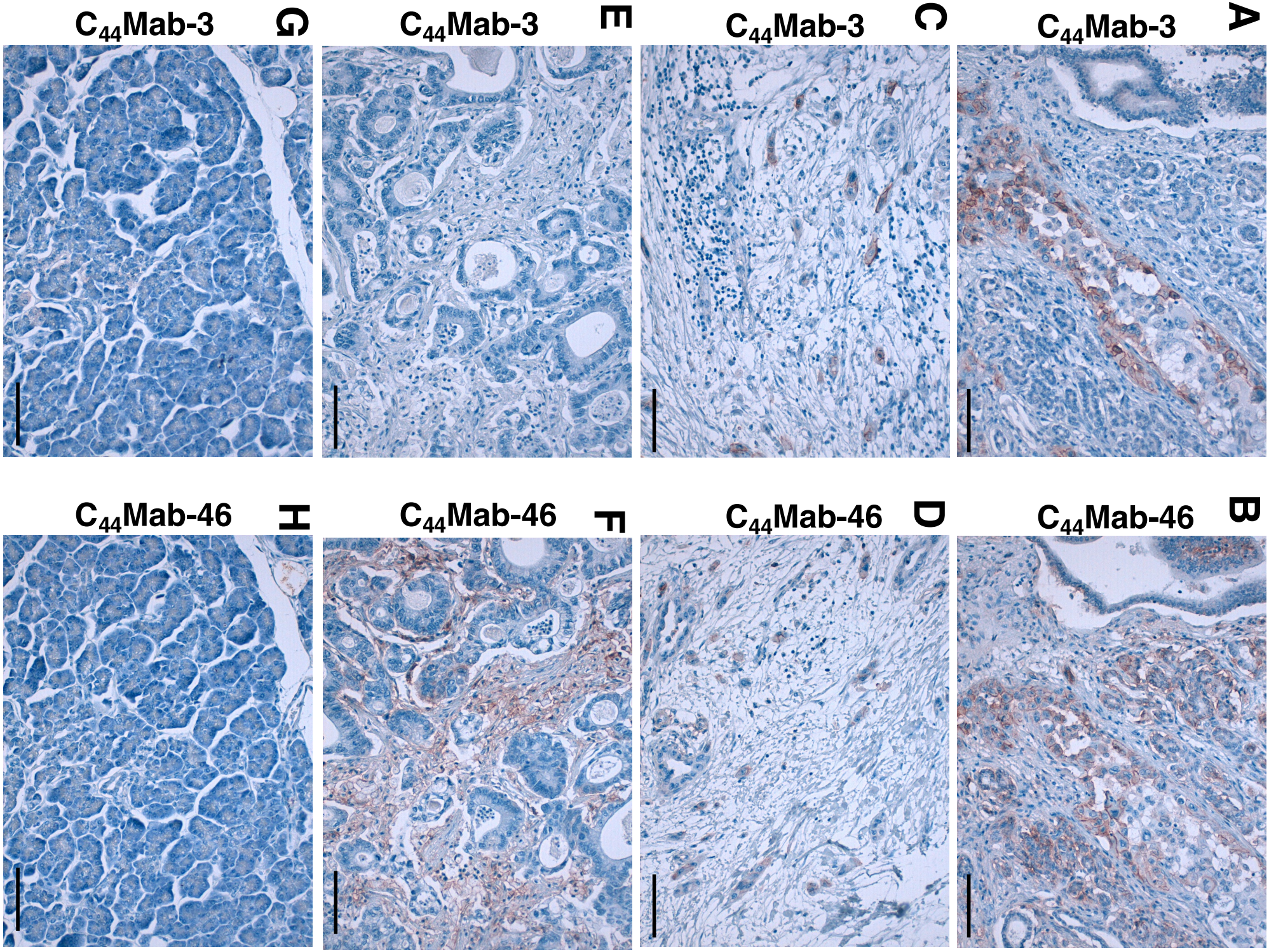
$C_{44}$Mab-3



$C_{44}$Mab-46



**Supplementary Figure S4 Immunohistochemical analysis using $C_{44}$Mab-3 and $C_{44}$Mab-46 against oral squamous cell carcinoma tissue.** After antigen retrieval, the sections were incubated with 5 $\mu$g/mL of $C_{44}$Mab-3 (A) and 1 $\mu$g/mL of $C_{44}$Mab-46 (B), followed by treatment with the Envision+ kit. The color was developed using 3,3′-diaminobenzidine tetrahydrochloride (DAB), and the sections were counterstained with hematoxylin. Scale bar = 100 $\mu$m.


C44Mab-3
G
C44Mab-3
E
C44Mab-3
C
C44Mab-3
A
C44Mab-46
H
C44Mab-46
F
C44Mab-46
D
C44Mab-46
B

**Supplementary Figure S5. Immunohistochemical analysis using $C_{44}$Mab-3 and $C_{44}$Mab-46 against pancreatic adenocarcinomas and normal pancreatic tissues.** After antigen retrieval, serial sections of pancreatic carcinoma tissue arrays (Catalog number: PA241c) were incubated with 1 $\mu$g/mL of $C_{44}$Mab-3 or $C_{44}$Mab-46 followed by treatment with the Envision+ kit. The color was developed using 3,3′-diaminobenzidine tetrahydrochloride (DAB), and the sections were counterstained with hematoxylin. Scale bar = 100 $\mu$m. (**A**–**F**) pancreatic adenocarcinomas; (**G, H**) normal pancreas tissues.

(**A**) $C_{44}$Mab-3 showed the membranous staining in pancreatic carcinoma cells with relatively larger cytoplasm, but not surrounding ductal structure of PDAC and stromal tissues. (**B**) $C_{44}$Mab-46 stained both type of PDAC. (**C, D**) The diffusely spread tumor cells in stroma were stained by both $C_{44}$Mab-3 and $C_{44}$Mab-46. (**E, F**) In well-differentiated PDAC, both $C_{44}$Mab-3 and $C_{44}$Mab-46 never stained the tumor cells. (**F**) In addition, stromal staining by $C_{44}$Mab-46 was observed in several tissues. (**G**) Importantly, normal pancreatic epithelial cells were never stained by $C_{44}$Mab-3.