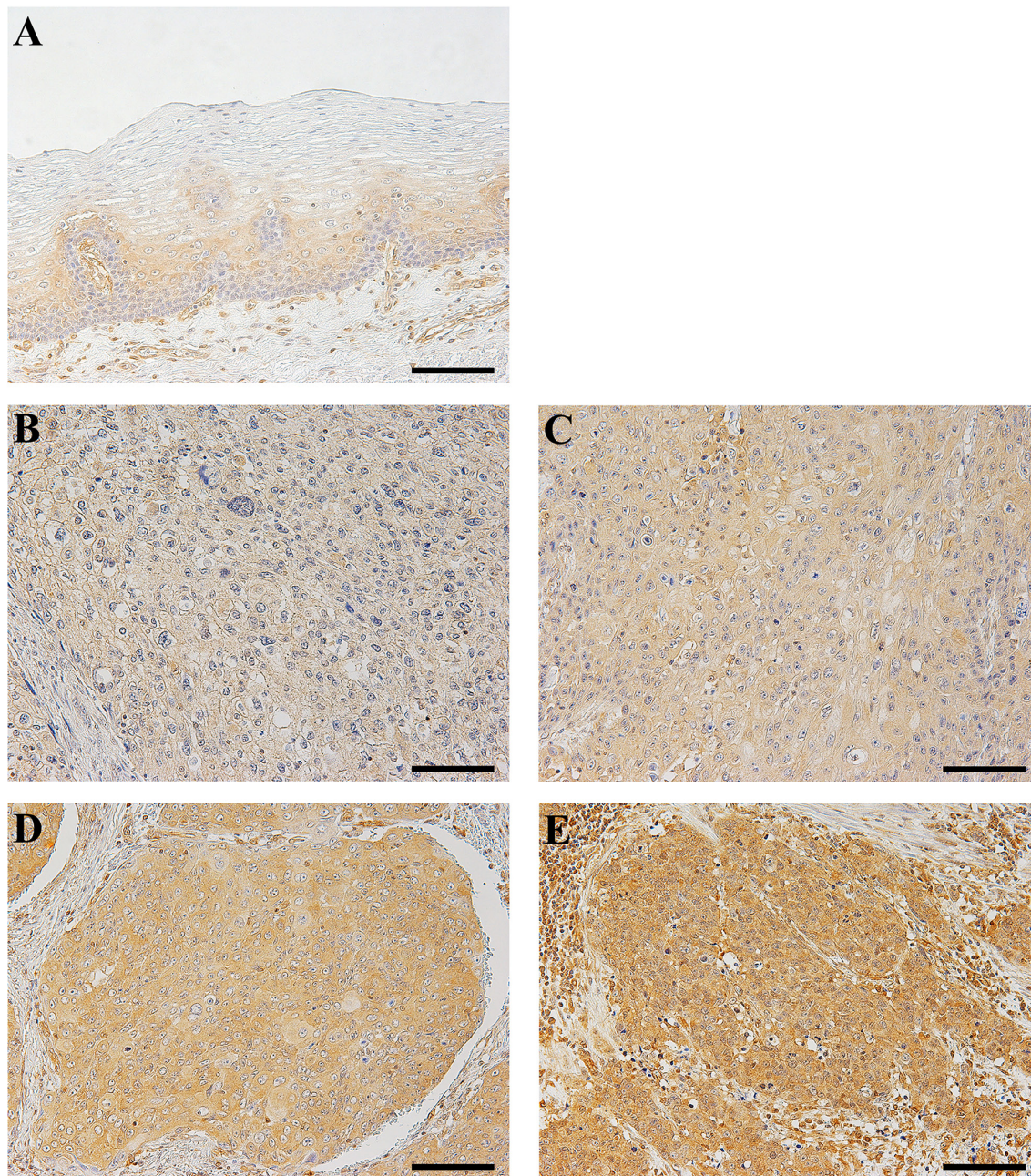
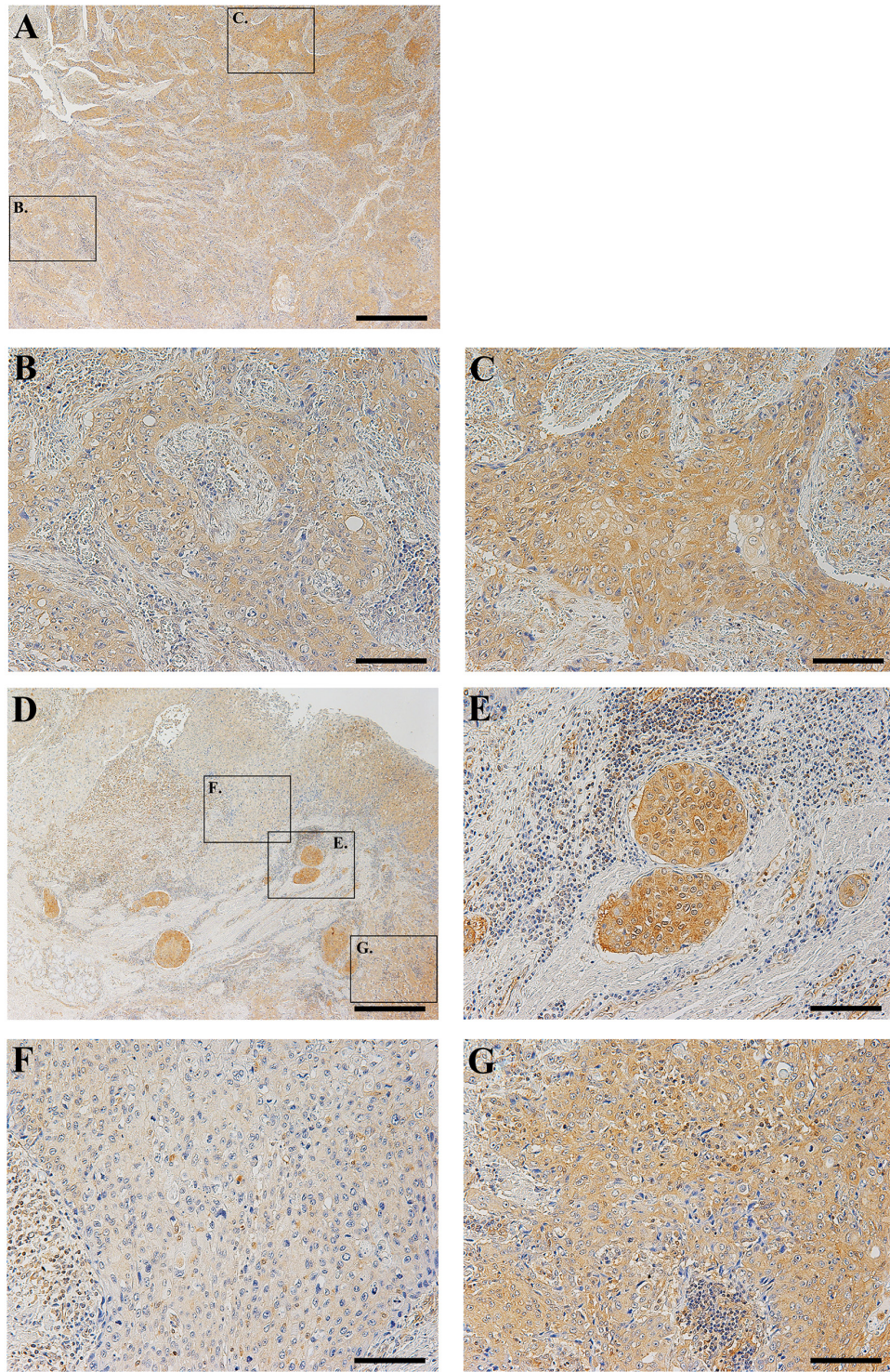


## Chloride intracellular channel 1 as a switch among tumor behaviors in human esophageal squamous cell carcinoma

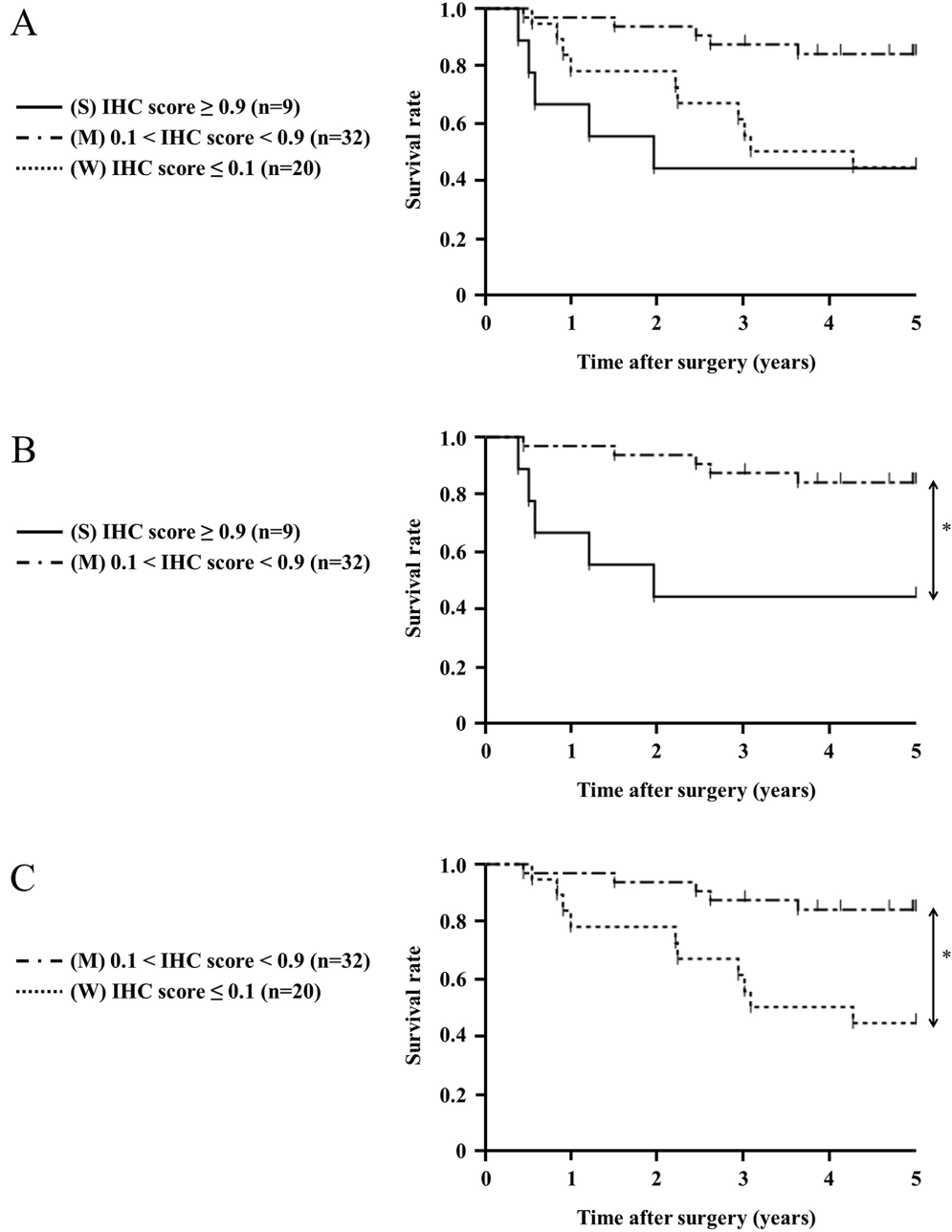
### SUPPLEMENTARY MATERIALS



**Supplementary Figure 1: CLIC1 protein expression in human esophageal squamous cell carcinoma (ESCC) using the high-power field.** (A) Immunohistochemical staining of non-cancerous esophageal epithelia with the CLIC1 antibody. Magnification:  $\times 200$ . Bar 100  $\mu\text{m}$ . (B-E) Photomicrographs of CLIC1 immunohistochemistry are shown with examples of an intensity score of 0 (B), 1 (C), 2 (D), and 3 (E). Magnification:  $\times 200$ . Bar 100  $\mu\text{m}$ . In ESCC cells, CLIC1 was mainly expressed in the cytoplasm, but was not specifically expressed in cell membrane.



**Supplementary Figure 2: Immunohistochemistry for CLIC1 showed that there was heterogeneity in resected ESCC tissues.** (A) Immunohistochemical staining of one ESCC sample with the CLIC1 antibody. Magnification:  $\times 40$ . Bar 500  $\mu\text{m}$ . (B) The figure using the high-power field (magnification:  $\times 200$ ). Bar 100  $\mu\text{m}$ . This area was weakly staining. (C) The figure using the high-power field (magnification:  $\times 200$ ). Bar 100  $\mu\text{m}$ . This area was moderately staining. (D) Immunohistochemical staining of another ESCC sample with the CLIC1 antibody. Magnification:  $\times 40$ . Bar 500  $\mu\text{m}$ . (E) The figure using the high-power field (magnification:  $\times 200$ ). Bar 100  $\mu\text{m}$ . This area was strongly staining. (F) The figure using the high-power field (magnification:  $\times 200$ ). Bar 100  $\mu\text{m}$ . This area was no staining. (G) The figure using the high-power field (magnification:  $\times 200$ ). Bar 100  $\mu\text{m}$ . This area was moderately staining.



**Supplementary Figure 3: Survival curve of patients after curative resection for ESCC among the three classified groups according to the expression of CLIC1.** All patients were classified into three groups: (S) the very strong CLIC1 expression group, CLIC1 IHC score  $\geq 0.9$  (n=9); (M) the middle CLIC1 expression group,  $0.1 < \text{IHC score} < 0.9$  (n=32); (W) the very weak CLIC1 expression group, CLIC1 IHC score  $\leq 0.1$  (n=20) in the tumor. **(A)** Survival curve of patients after curative resection for ESCC among the three groups. **(B)** Survival curve of patients after curative resection for ESCC between group (S) and group (M). Group (S) was significantly poorer prognosis than group (M). **(C)** Survival curve of patients after curative resection for ESCC between group (M) and group (W). Group (W) was significantly poorer prognosis than group (M). \* $p < 0.01$ : Log-rank test.

**Supplementary Table 1: Top diseases and biological functions of CLIC1 according to an Ingenuity Pathway Analysis**

<b>Top Diseases and Biological Functions</b>		
<b>Diseases and Disorders</b>		
<b>Name</b>	<b>P value</b>	<b>Number of molecules</b>
Neurological Disease	2.37E-04 - 7.10E-09	500
Cancer	2.58E-04 - 2.53E-08	2162
Gastrointestinal Disease	1.93E-04 - 2.53E-08	1865
Hepatic System Disease	7.09E-05 - 2.53E-08	998
Organismal Injury and Abnormalities	2.58E-04 - 2.53E-08	2198
<b>Molecular and Cellular Functions</b>		
<b>Name</b>	<b>P value</b>	<b>Number of molecules</b>
Cell Morphology	2.37E-04 - 4.21E-14	597
Cellular Growth and Proliferation	2.43E-04 - 2.65E-11	648
Cellular Development	2.43E-04 - 2.05E-10	707
Cellular Movement	2.37E-04 - 1.36E-09	514
Cellular Assembly and Organization	2.52E-04 - 5.50E-09	377