**Supplement Figure Legend**

**Supplemental Figure 1. The expression of three proteins were not significantly elevated in in tumor tissues with lymph node metastasis than without lymph node metastasis in training stage*.***

(A) IHC analysis of P4HA2 expression levels in tumor tissues containing 33 OSCC tissues without lymph node metastasis and 25 tissues with lymph node metastasis is shown. NS, *p*>0.05, based on Student’s *t*-test. Scale bar: 20 μm.

(B) IHC analysis of TGM2 expression levels in tumor tissues containing 33 OSCC tissues without lymph node metastasis and 25 tissues with lymph node metastasis is shown. NS, *p*>0.05, based on Student’s *t*-test. Scale bar: 20 μm.

(C) IHC analysis of THBS1 expression levels in tumor tissues containing 33 OSCC tissues without lymph node metastasis and 25 tissues with lymph node metastasis is shown. NS, *p*>0.05, based on Student’s *t*-test. Scale bar: 20 μm.

**Supplemental Figure 2. The expression of CAD and SOD2 were significantly elevated in OSCC tissues with lymph node metastasis than without lymph node metastasis in validating stage.**

(A) IHC analysis of CAD expression levels in tumor tissues of microarrays containing 74 OSCC tissues without lymph node metastasis and 27 tissues with lymph node metastasis is shown. \*\* *p*<0.01, based on Student’s t-test. Scale bar: 20 μm.

(B) IHC analysis of SOD2 expression levels in tumor tissues of microarrays containing 74 OSCC tissues without lymph node metastasis and 27 tissues with lymph node metastasis is shown. \* *p*<0.05, based on Student’s *t*-test. Scale bar: 20 μm.

**Supplemental Figure 3. The OS and DFS of CAD, SOD2, histopathological grade and lymph node metastasis was validated in validating stage.**

(A, B) The OS and DFS were significantly different between the low and high CAD expression groups in OSCC.

(C, D) The OS and DFS were significantly different between the low and high SOD2 expression groups in OSCC.

(E, F) The OS and DFS were significantly different between well and poor histopathological grade groups in OSCC.

(G, H) The OS and DFS were significantly different between non-lymph node metastasis and lymph node metastasis groups in OSCC.

**Supplemental Figure 4. The AUC of single variable and the combination of all variables for life status was validated in validating stage.**

(A-D) The AUC of single variable: the expression of CAD, SOD2, histopathological grade and lymph node metastasis were analyzed.

(E) The AUC of the combination of all variables were analyzed.