388 of records identified through database screening

0 of additional records identified through other sources

360 of records after duplicates removed

45 of records screened

315 of records excluded

8 of full-text articles assessed for eligibility

37 of full-text articles excluded, with reasons

8 of studies included in qualitative synthesis

8 of studies included in quantitative synthesis (meta-analysis)
### Table A

| Study or Subgroup | Hazard Ratio (95% CI) | SE | Weight | Hazard Ratio (95% CI) |
|-------------------|-----------------------|----|--------|-----------------------|
| Li 2009           | 0.971 (0.720, 1.320)  | 0.038 | 0.038 | 1.119 (0.826, 1.521)  |
| Wu 2011           | 0.992 (0.645, 1.531)  | 0.038 | 0.038 | 1.006 (0.687, 1.447)  |
| Zhang 2011        | 1.180 (0.916, 1.532)  | 0.038 | 0.038 | 1.020 (0.764, 1.350)  |

### Table B

| Study or Subgroup | Hazard Ratio (95% CI) | SE | Weight | Hazard Ratio (95% CI) |
|-------------------|-----------------------|----|--------|-----------------------|
| Li 2009           | 0.971 (0.720, 1.320)  | 0.038 | 0.038 | 1.119 (0.826, 1.521)  |
| Wu 2011           | 0.992 (0.645, 1.531)  | 0.038 | 0.038 | 1.006 (0.687, 1.447)  |
| Zhang 2011        | 1.180 (0.916, 1.532)  | 0.038 | 0.038 | 1.020 (0.764, 1.350)  |

### Table C

| Study or Subgroup | Hazard Ratio (95% CI) | SE | Weight | Hazard Ratio (95% CI) |
|-------------------|-----------------------|----|--------|-----------------------|
| Li 2009           | 0.971 (0.720, 1.320)  | 0.038 | 0.038 | 1.119 (0.826, 1.521)  |
| Wu 2011           | 0.992 (0.645, 1.531)  | 0.038 | 0.038 | 1.006 (0.687, 1.447)  |
| Zhang 2011        | 1.180 (0.916, 1.532)  | 0.038 | 0.038 | 1.020 (0.764, 1.350)  |

### Table D

| Study or Subgroup | Hazard Ratio (95% CI) | SE | Weight | Hazard Ratio (95% CI) |
|-------------------|-----------------------|----|--------|-----------------------|
| Li 2009           | 0.971 (0.720, 1.320)  | 0.038 | 0.038 | 1.119 (0.826, 1.521)  |
| Wu 2011           | 0.992 (0.645, 1.531)  | 0.038 | 0.038 | 1.006 (0.687, 1.447)  |
| Zhang 2011        | 1.180 (0.916, 1.532)  | 0.038 | 0.038 | 1.020 (0.764, 1.350)  |
### Study or Subgroup

| Study or Subgroup    | log[Hazard Ratio] | SE     | Weight | Hazard Ratio (IV, Fixed, 95% CI) |
|----------------------|------------------|--------|--------|----------------------------------|
| 1.8.1 New Subgroup   |                  |        |        |                                  |
| Chon 2020            | 1.047319         | 0.4964056 | 5.1%   | 2.85 [1.08, 7.54]               |
| Lu 2020              | 0.5988385        | 0.2244217 | 25.2%  | 1.82 [1.17, 2.83]               |
| Sun 2017             | -0.2484614       | 0.1363972 | 0.0%   | 0.78 [0.60, 1.02]               |
| Sun 2018             | 0.9282193        | 0.5158477 | 4.8%   | 2.53 [0.92, 6.96]               |
| Wang 2020            | 0.5068176        | 0.4345579 | 6.7%   | 1.66 [0.71, 3.89]               |
| Zhang 2018           | 0.6678294        | 0.4988896 | 5.1%   | 1.95 [0.73, 5.18]               |
| Zhang 2019           | 0.7030975        | 0.2744271 | 16.8%  | 2.02 [1.18, 3.48]               |
| Zheng 2019           | 0.9001014        | 0.1871117 | 36.2%  | 2.46 [1.70, 3.55]               |
| **Subtotal (95% CI)**|                  |        | 100.0% | 2.14 [1.72, 2.67]               |

**Heterogeneity:** Chi² = 1.93, df = 6 (P = 0.93); I² = 0%

Test for overall effect: Z = 6.76 (P < 0.00001)

### Total (95% CI)

| Study or Subgroup    | log[Hazard Ratio] | SE     | Weight | Hazard Ratio (IV, Fixed, 95% CI) |
|----------------------|------------------|--------|--------|----------------------------------|
| **Total (95% CI)**   |                  |        | 100.0% | 2.14 [1.72, 2.67]               |

**Heterogeneity:** Chi² = 1.93, df = 6 (P = 0.93); I² = 0%

Test for overall effect: Z = 6.76 (P < 0.00001)

Test for subgroup differences: Not applicable
Table S1. Characteristics of studies in this meta-analysis

| Study     | Year | Country | Cancer type | Total | Tumor stage | Method       | Cut of    | LncRNA KCNQ1OT1 expression | Survival analysis | Multivariate analysis | HR (95% CI) | Follow-up period months | NOS score |
|-----------|------|---------|-------------|-------|-------------|--------------|-----------|--------------------------|-------------------|-----------------------|--------------|-------------------------|-----------|
| Chen[39]  | 2020 | China   | CRC         | 79    | I–IV        | RT-qPCR      | Median    | 42 High expression       | High with LNM     |          | 2.85(1.08-7.56)       | 80          | 7                      |
| Lu[42]    | 2020 | China   | OC          | 86    | I–IV        | RT-qPCR      | Median    | 101 High expression      | High with LNM     |          | 1.82(1.17-2.82)       | 60          | 7                      |
| Sun[43]   | 2018 | China   | CCA         | 62    | I–IV        | RT-qPCR      | Mean      | 31 High expression       | Low with LNM      |          | 2.53(0.92-6.95)       | 57          | 7                      |
| Sun[44]   | 2017 | China   | LC          | 130   | I–IV        | RT-qPCR      | Median    | 65 High expression       | Low with LNM      |          | 0.78(0.58-0.99)       | 42          | 6                      |
| Wang[19]  | 2020 | China   | LC          | 60    | I–IV        | RT-qPCR      | NA        | 30 High expression       | Low with LNM      |          | 1.66(0.71-3.90)       | 60          | 7                      |
| Zhang[18] | 2019 | China   | COAD        | 435   | I–IV        | RT-qPCR      | NA        | 43 High expression       | Low with LNM      |          | 2.02(1.18-3.46)       | 60          | 7                      |
| Zhang[17] | 2018 | China   | TC          | 102   | I–IV        | RT-qPCR      | Median    | 43 High expression       | Low with LNM      |          | 1.95(0.73-5.16)       | 80          | 6                      |
| Zheng[16] | 2019 | China   | LC          | 200   | I–IV        | RT-qPCR      | Mean      | 107 High expression      | High with LNM     |          | 2.46(1.70-3.54)       | 60          | 7                      |

Abbreviations:

CRC: colorectal cancer; OC: ovarian cancer; CCA: Cholangiocarcinoma; LC: Lung cancer; COAD: Colon adenocarcinoma; TC: Tongue cancer; CI: confidence interval; HR: hazard ratio; LNM: lymph node metastasis; NA: no report; OS: overall survival; Rep: report; RT-qPCR: real-time quantitative polymerase chain reaction; SC: survival curve; BC: breast cancer; NOS: Newcastle-Ottawa scale
Table S2. Study quality was assessed according to the Newcastle-Ottawa Scale

| study   | selection | comparability | outcome | total |
|---------|-----------|---------------|---------|-------|
|         | Adequacy of case definition | Number of case | Representativeness of the cases | Ascertainment of exposure | Ascertainment of detection method | Ascertainment of cut-off | Assessment of outcome | Adequate follow up |
| Chen[39] | 1         | 1             | 1       | 0     | 1       | 1     | 1             | 1             | 7     |
| Lu[42]   | 1         | 1             | 1       | 0     | 1       | 1     | 1             | 1             | 7     |
| Sun[43]  | 1         | 1             | 1       | 1     | 1       | 1     | 1             | 0             | 7     |
| Sun[44]  | 1         | 1             | 1       | 1     | 1       | 1     | 1             | 0             | 6     |
| Wang[19] | 1         | 1             | 1       | 0     | 1       | 0     | 1             | 1             | 7     |
| Zhang[18]| 1         | 1             | 1       | 0     | 1       | 0     | 1             | 1             | 7     |
| Zhang[17]| 1         | 1             | 0       | 1     | 1       | 0     | 1             | 0             | 6     |
| Zheng[16]| 1         | 1             | 0       | 1     | 1       | 1     | 1             | 1             | 7     |