**Table S1 Basic characteristics of included studies.**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Author** | **Trial** | **Region** | **Median (range)**  **Age (years)** | | **Males**  **(%)** | | **ECOG** | | | | **Primary endpoint** |
| **ICI**  **arm** | **Control arm** | **ICI**  **arm** | **Control arm** | **ICI arm** | | **Control arm** | |
| **0**  **(%)** | **1**  **(%)** | **0**  **(%)** | **1**  **(%)** |
| Doki *et al*.  2022 | CheckMate 648 | Asia and the rest of the world | 64  (40-90) | 64  (26-81) | 79 | 85 | 47 | 53 | 48 | 52 | OS and PFS |
| Huang *et al*.  2020 | ESCORT | East Asia | 60  (54-65) | 60  (54-65) | 91 | 87 | 20 | 80 | 20 | 80 | OS |
| Kato *et al*.  2019 | ATTRACTION-3 | Europe, East Asia, and the USA | 64  (57-69) | 67  (57-72) | 85 | 89 | 48 | 52 | 51 | 49 | OS |
| Kojima *et al*.  2020 | KEYNOTE-181 | Asia and the rest of the world | 63  (23-84) | 62  (24-84) | 87 | 86 | 40 | 60 | 37 | 63 | OS |
| Luo *et al*.  2021 | ESCORT-1st | East Asia | 62  (56-66) | 62  (56-67) | 87 | 88 | 24 | 76 | 22 | 78 | OS and PFS |
| Shen *et al*.  2021 | ORIENT-15 | Asia and the rest of the world | 63  (57-67) | 63  (56-67) | 85 | 87 | 24 | 76 | 24 | 76 | OS |
| Shen *et al*.  2021 | RATIONALE 302 | Europe, Asia, and North America | 62  (40-86) | 63  (35-81) | 85 | 84 | 26 | 74 | 23 | 77 | OS |
| Sun *et al*.  2021 | KEYNOTE-590 | Asia and the rest of the world | 64  (28-94) | 62  (27-89) | 82 | 85 | 40 | 60 | 40 | 60 | OS and PFS |
| Xu *et al*.  2021 | JUPITER-06 | East Asia | 63  (20-75) | 62  (40-74) | 84 | 86 | 26 | 74 | 27 | 74 | OS and PFS |
| Xu *et al*.  2022 | ORIENT-2 | East Asia | 60  (54-64) | 60  (54-64) | 93 | 88 | 24 | 76 | 24 | 76 | OS |
| Janjigian *et al*.  2021 | CheckMate 649 | Asia, USA, Canada, and the rest of the world | 62  (54-69) | 61  (53-68) | 68 | 71 | 41 | 59 | 42 | 57 | OS and PFS |
| Bang *et al*. 2018 | JAVELIN Gastric 300 | Europe, Asia, North America, and  the rest of the world | 59  (29-86) | 61  (18-82) | 76 | 68 | 36 | 64 | 33 | 67 | OS |
| Shitara *et al*. 2018 | KEYNOTE-061 | Europe, Asia, North America, and  the rest of the world | 64  (57-70) | 61  (54-68) | 74 | 70 | 45 | 55 | 46 | 53 | OS and PFS |
| Shitara *et al*.  Arm A  2020 | KEYNOTE-062 | Europe, North America, Australia, Asia, and  the rest of the world | 61.0  (20-83) | 62.5  (23-87) | 70 | 72 | 51 | 49 | 46 | 54 | OS and PFS |
| Shitara *et al*.  Arm B  2020 | 62.0  (22-83) | 62.5  (23-87) | 76 | 72 | 46 | 54 | 46 | 54 |
| Kang *et al*.  2022 | ATTRACTION-4 | East Asia | 64  (25-86) | 65  (27-89) | 70 | 75 | 54 | 46 | 54 | 46 | PFS and OS |

Continued

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Author** | **Tumor PD-L1 expression** | | | | | | **PD-L1 CPS** | | | | | | **Tumor type** | | | | | | | |
| **ICI arm** | | | **Control arm** | | | **ICI arm** | | | **Control arm** | | | **ESCC (%)** | | **EAC (%)** | | **GEJC (%)** | | **GC (%)** | |
| **<1%**  **(%)** | **≥1%**  **(%)** | **Unknown**  **(%)** | **<1%**  **(%)** | **≥1%**  **(%)** | **Unknown**  **(%)** | **<1**  **(%)** | **≥1**  **(%)** | **Unknown**  **(%)** | **<1**  **(%)** | **≥1**  **(%)** | **Unknown**  **(%)** | **ICI**  **arm** | **Control arm** | **ICI**  **arm** | **Control arm** | **ICI**  **arm** | **Control arm** | **ICI**  **arm** | **Control arm** |
| Doki *et al*.  2022 | 51 | 49 | 0 | 52 | 48 | NA | NA | NA | NA | NA | NA | NA | 97 | 98 | 3 | 2 | 0 | 0 | 0 | 0 |
| Huang *et al*.  2020 | 57 | 41 | 2 | 54 | 45 | 1 | NA | NA | NA | NA | NA | NA | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kato *et al*.  2019 | 52 | 48 | 0 | 51 | 49 | 0 | NA | NA | NA | NA | NA | NA | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kojima *et al*.  2020 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 63 | 65 | 37 | 35 | 0 | 0 | 0 | 0 |
| Luo *et al*.  2021 | 42 | 56 | 2 | 44 | 55 | 1 | NA | NA | NA | NA | NA | NA | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 |
| Shen *et al*.  2021 | 47 | 53 | 0 | 43 | 57 | 0 | 10 | 90 | 0 | 7 | 93 | 0 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 |
| Shen *et al*.  2021 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sun *et al*.  2021 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 73 | 73 | 16 | 14 | 11 | 13 | 0 | 0 |
| Xu *et al*.  2021 | NA | NA | NA | NA | NA | NA | 17 | 78 | 5 | 17 | 78 | 5 | 76 | 76 | 0 | 0 | 4 | 2 | 0 | 0 |
| Xu *et al*.  2022 | 46 | 32 | 22 | 45 | 25 | 30 | 12 | 66 | 22 | 18 | 53 | 29 | 100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 |
| Janjigian *et al*.  2021 | 84 | 16 | 0 | 84 | 16 | 0 | 19 | 81 | 0 | 17 | 83 | 0 | 0 | 0 | 13 | 14 | 17 | 16 | 70 | 70 |
| Bang *et al*. 2018 | 71 | 29 | 0 | 24 | 76 | 0 | NA | NA | NA | NA | NA | NA | 0 | 0 | 0 | 0 | 34 | 26 | 66 | 74 |
| Shitara *et al*. 2018 | NA | NA | NA | NA | NA | NA | 33 | 66 | <1 | 67 | 32 | <1 | 0 | 0 | 0 | 0 | 32 | 37 | 68 | 63 |
| Shitara *et al*.  Arm A  2020 | NA | NA | NA | NA | NA | NA | 0 | 100 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 27 | 69 | 72 |
| Shitara *et al*.  Arm B  2020 | NA | NA | NA | NA | NA | NA | 0 | 100 | 0 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 27 | 66 | 72 |
| Kang *et al*.  2022 | 84 | 16 | 0 | 85 | 15 | 0 | NA | NA | NA | NA | NA | NA | 0 | 0 | 0 | 0 | 8 | 9 | 65 | 66 |
| CPS: Combined positive score; ESCC: Esophageal squamous cell carcinoma; EAC: Esophageal adenocarcinoma; GC: Gastric cancer; GEJC: Gastroesophageal cancer; ICI: Immune checkpoint inhibitors; NA: Not available; OS: Overall survival; PFS: Progression-free survival. | | | | | | | | | | | | | | | | | | | | |

**Table S2 Analyses of OS in subgroups of patients with different clinical and molecular features**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Population | Subgroup | No. of studies | Test of association | | | Test of heterogeneity | |
| HR | 95%CI | P value | I2 | P value |
| Aged <65 years | Total | 16 | 0.78 | 0.73-0.83 | <0.00001 | 5% | 0.40 |
| Treatment regimen | | | | | | |
| 1st-line  combination therapy | 8 | 0.78 | 0.71-0.84 | <0.00001 | 0% | 0.82 |
| ≥2nd-line monotherapy | 7 | 0.79 | 0.68-0.92 | 0.002 | 50% | 0.06 |
| Tumor site | | | | | | |
| EC | 10 | 0.74 | 0.68-0.81 | <0.00001 | 0% | 0.76 |
| GEJC/GC | 5 | 0.84 | 0.74-0.94 | 0.003 | 42% | 0.14 |
| Aged ≥65 years | Total | 16 | 0.79 | 0.73-0.85 | <0.00001 | 33% | 0.09 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 8 | 0.75 | 0.68-0.83 | <0.00001 | 46% | 0.07 |
| ≥2nd-line monotherapy | 7 | 0.82 | 0.72-0.94 | 0.004 | 4% | 0.39 |
| Tumor site | | | | | | |
| EC | 10 | 0.71 | 0.64-0.79 | <0.00001 | 10% | 0.35 |
| GEJC/GC | 5 | 0.97 | 0.84-1.11 | 0.62 | 0% | 0.99 |
| Female | Total | 16 | 0.87 | 0.78-0.97 | 0.01 | 22% | 0.21 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 8 | 0.89 | 0.78-1.02 | 0.09 | 0% | 0.81 |
| ≥2nd-line monotherapy | 7 | 0.77 | 0.55-1.09 | 0.14 | 60% | 0.02 |
| Tumor site | | | | | | |
| EC | 10 | 0.78 | 0.65-0.94 | 0.008 | 15% | 0.31 |
| GEJC/GC | 5 | 0.98 | 0.83-1.16 | 0.82 | 24% | 0.26 |
| Male | Total | 16 | 0.77 | 0.73-0.81 | <0.00001 | 30% | 0.12 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 8 | 0.73 | 0.68-0.79 | <0.00001 | 37% | 0.14 |
| ≥2nd-line monotherapy | 7 | 0.82 | 0.75-0.89 | <0.00001 | 0% | 0.50 |
| Tumor site | | | | | | |
| EC | 10 | 0.73 | 0.68-0.78 | <0.00001 | 25% | 0.21 |
| GEJC/GC | 5 | 0.88 | 0.79-0.98 | 0.02 | 0% | 0.93 |
| PS 0 | Total | 16 | 0.82 | 0.76-0.89 | <0.00001 | 35% | 0.08 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 8 | 0.79 | 0.71-0.88 | <0.0001 | 47% | 0.07 |
| ≥2nd-line monotherapy | 7 | 0.87 | 0.75-1.00 | 0.05 | 32% | 0.18 |
| Tumor site | | | | | | |
| EC | 10 | 0.74 | 0.66-0.83 | <0.00001 | 0% | 0.44 |
| GEJC/GC | 5 | 0.93 | 0.77-1.14 | 0.51 | 51% | 0.09 |
| PS 1 | Total | 16 | 0.76 | 0.72-0.81 | <0.00001 | 31% | 0.11 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 8 | 0.73 | 0.68-0.80 | <0.00001 | 0% | 0.90 |
| ≥2nd-line monotherapy | 7 | 0.78 | 0.66-0.92 | 0.003 | 61% | 0.02 |
| Tumor site | | | | | | |
| EC | 10 | 0.72 | 0.67-0.78 | <0.00001 | 14% | 0.31 |
| GEJC/GC | 5 | 0.89 | 0.79-1.01 | 0.06 | 0% | 0.60 |
| Active smoker | Total | 3 | 0.56 | 0.37-0.84 | 0.005 | 0% | 0.37 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 1 | 0.70 | 0.39-1.28 | 0.25 |  |  |
| ≥2nd-line monotherapy | 2 | 0.45 | 0.26-0.80 | 0.006 | 0% | 0.35 |
| Tumor site | | | | | | |
| EC | 3 | 0.56 | 0.37-0.84 | 0.005 | 0% | 0.37 |
| GEJC/GC | 0 |  |  |  |  |  |
| Previous smoker | Total | 3 | 0.77 | 0.65-0.92 | 0.004 | 8% | 0.34 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 1 | 0.65 | 0.48-0.88 | 0.005 |  |  |
| ≥2nd-line monotherapy | 2 | 0.84 | 0.68-1.05 | 0.13 | 0% | 0.57 |
| Tumor site | | | | | | |
| EC | 3 | 0.77 | 0.65-0.92 | 0.004 | 8% | 0.34 |
| GEJC/GC | 0 |  |  |  |  |  |
| Never smoker | Total | 5 | 0.73 | 0.59-0.90 | 0.003 | 0% | 0.90 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 2 | 0.71 | 0.52-0.97 | 0.03 | 0% | 0.44 |
| ≥2nd-line monotherapy | 3 | 0.75 | 0.56-0.99 | 0.04 | 0% | 0.81 |
| Tumor site | | | | | | |
| EC | 5 | 0.73 | 0.59-0.90 | 0.003 | 0% | 0.90 |
| GEJC/GC | 0 |  |  |  |  |  |
| Squamous carcinoma | Total | 10 | 0.71 | 0.66-0.76 | <0.00001 | 0% | 0.88 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 5 | 0.68 | 0.61-0.76 | <0.00001 | 0% | 0.63 |
| ≥2nd-line monotherapy | 5 | 0.73 | 0.66-0.81 | <0.00001 | 0% | 0.92 |
| Tumor site | | | | | | |
| EC | 10 | 0.71 | 0.66-0.76 | <0.00001 | 0% | 0.88 |
| GEJC/GC | 0 |  |  |  |  |  |
| Adenocarcinoma | Total | 8 | 0.87 | 0.81-0.93 | <0.0001 | 44% | 0.09 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 4 | 0.82 | 0.75-0.89 | <0.00001 | 0% | 0.60 |
| ≥2nd-line monotherapy | 3 | 1.01 | 0.82-1.24 | 0.96 | 56% | 0.10 |
| Tumor site | | | | | | |
| EC | 3 | 0.89 | 0.69-1.14 | 0.37 | 51% | 0.13 |
| GEJC/GC | 5 | 0.91 | 0.83-1.00 | 0.04 | 16% | 0.32 |
| With  1 organ metastasis | Total | 4 | 0.79 | 0.67-0.93 | 0.004 | 0% | 0.49 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 3 | 0.78 | 0.65-0.94 | 0.008 | 14% | 0.31 |
| ≥2nd-line monotherapy | 1 | 0.82 | 0.58-1.16 | 0.26 |  |  |
| Tumor site | | | | | | |
| EC | 2 | 0.86 | 0.68-1.09 | 0.22 | 0% | 0.71 |
| GEJC/GC | 1 | 0.60 | 0.40-0.90 | 0.01 |  |  |
| With  ≥2 organ metastasis | Total | 6 | 0.75 | 0.64-0.88 | 0.0004 | 66% | 0.01 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 4 | 0.78 | 0.63-0.96 | 0.02 | 74% | 0.009 |
| ≥2nd-line monotherapy | 2 | 0.67 | 0.55-0.82 | <0.0001 | 0% |  |
| Tumor site | | | | | | |
| EC | 4 | 0.66 | 0.58-0.76 | <0.00001 | 0% | 0.59 |
| GEJC/GC | 1 | 1.04 | 0.85-1.28 | 0.69 |  |  |
| With liver metastasis | Total | 6 | 0.70 | 0.61-0.79 | <0.00001 | 0% | 0.84 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 4 | 0.70 | 0.61-0.80 | <0.00001 | 0% | 0.70 |
| ≥2nd-line monotherapy | 2 | 0.69 | 0.49-0.97 | 0.03 | 0% | 0.42 |
| Tumor site | | | | | | |
| EC | 4 | 0.64 | 0.51-0.80 | <0.0001 | 0% | 0.80 |
| GEJC/GC | 1 | 0.76 | 0.56-1.01 | 0.06 |  |  |
| Without liver metastases | Total | 6 | 0.81 | 0.74-0.89 | <0.0001 | 37% | 0.16 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 4 | 0.81 | 0.68-0.96 | 0.02 | 60% | 0.06 |
| ≥2nd-line monotherapy | 2 | 0.76 | 0.62-0.95 | 0.01 | 0% | 0.95 |
| Tumor site | | | | | | |
| EC | 4 | 0.72 | 0.63-0.83 | <0.00001 | 0% | 0.74 |
| GEJC/GC | 1 | 1.00 | 0.79-1.25 | 0.98 |  |  |
| PD-L1 expression on TPS <1% | Total | 9 | 0.86 | 0.79-0.92 | <0.0001 | 46% | 0.06 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 5 | 0.82 | 0.70-0.95 | 0.008 | 54% | 0.07 |
| ≥2nd-line monotherapy | 4 | 0.93 | 0.79-1.09 | 0.34 | 39% | 0.18 |
| Tumor site | | | | | | |
| EC | 6 | 0.80 | 0.70-0.91 | 0.0006 | 38% | 0.15 |
| GEJC/GC | 2 | 1.01 | 0.73-1.40 | 0.94 | 71% | 0.06 |
| PD-L1 expression on TPS ≥1% | Total | 9 | 0.65 | 0.58-0.73 | <0.00001 | 26% | 0.21 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 5 | 0.63 | 0.55-0.73 | <0.00001 | 44% | 0.13 |
| ≥2nd-line monotherapy | 4 | 0.70 | 0.57-0.85 | 0.0003 | 0% | 0.39 |
| Tumor site | | | | | | |
| EC | 6 | 0.63 | 0.55-0.72 | <0.00001 | 0% | 0.64 |
| GEJC/GC | 2 | 1.00 | 0.72-1.41 | 0.98 | 0% | 0.73 |
| PD-L1 expression on CPS <1 | Total | 5 | 0.94 | 0.75-1.18 | 0.61 | 0% | 0.61 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 4 | 0.92 | 0.73-1.17 | 0.50 | 0% | 0.53 |
| ≥2nd-line monotherapy | 1 | 1.30 | 0.51-3.27 | 0.58 |  |  |
| Tumor site | | | | | | |
| EC | 4 | 0.97 | 0.67-1.42 | 0.89 | 0% | 0.45 |
| GEJC/GC | 0 |  |  |  |  |  |
| PD-L1 expression on CPS ≥1 | Total | 8 | 0.75 | 0.70-0.81 | <0.00001 | 34% | 0.15 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 5 | 0.73 | 0.67-0.79 | <0.00001 | 47% | 0.11 |
| ≥2nd-line monotherapy | 2 | 0.80 | 0.66-0.98 | 0.03 | 0% | 0.62 |
| Tumor site | | | | | | |
| EC | 4 | 0.64 | 0.57-0.74 | <0.00001 | 0% | 0.72 |
| GEJC/GC | 3 | 0.85 | 0.75-0.97 | 0.02 | 0% | 0.86 |
| PD-L1 expression on CPS <10 | Total | 7 | 0.83 | 0.74-0.92 | 0.0005 | 33% | 0.18 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 4 | 0.75 | 0.65-0.87 | <0.0001 | 20% | 0.29 |
| ≥2nd-line monotherapy | 3 | 0.93 | 0.79-1.10 | 0.41 | 0% | 0.55 |
| Tumor site | | | | | | |
| EC | 7 | 0.83 | 0.74-0.92 | 0.0005 | 33% | 0.18 |
| GEJC/GC | 0 |  |  |  |  |  |
| PD-L1 expression on CPS ≥10 | Total | 10 | 0.66 | 0.59-0.73 | <0.00001 | 0% | 0.88 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 5 | 0.66 | 0.58-0.76 | <0.00001 | 0% | 0.56 |
| ≥2nd-line monotherapy | 4 | 0.65 | 0.53-0.79 | <0.0001 | 0% | 0.72 |
| Tumor site | | | | | | |
| EC | 7 | 0.63 | 0.56-0.72 | <0.00001 | 0% | 0.97 |
| GEJC/GC | 3 | 0.74 | 0.60-0.92 | 0.005 | 0% | 0.53 |
| Asian | Total | 12 | 0.74 | 0.69-0.79 | <0.00001 | 26% | 0.19 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 6 | 0.74 | 0.67-0.81 | <0.00001 | 42% | 0.12 |
| ≥2nd-line monotherapy | 6 | 0.74 | 0.67-0.82 | <0.00001 | 19% | 0.29 |
| Tumor site | | | | | | |
| EC | 9 | 0.70 | 0.65-0.76 | <0.00001 | 0% | 0.90 |
| GEJC/GC | 2 | 0.94 | 0.79-1.11 | 0.48 | 41% | 0.19 |
| White | Total | 4 | 0.81 | 0.56-1.18 | 0.27 | 76% | 0.006 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 1 | 0.79 | 0.69-0.91 | 0.0010 |  |  |
| ≥2nd-line monotherapy | 3 | 0.76 | 0.37-1.57 | 0.46 | 80% | 0.006 |
| Tumor site | | | | | | |
| EC | 2 | 0.53 | 0.33-0.83 | 0.006 | 0% | 1.00 |
| GEJC/GC | 1 | 1.28 | 0.95-1.72 | 0.10 |  |  |
| Primary esophageal tumour | Total | 10 | 0.73 | 0.68-0.78 | <0.00001 | 11% | 0.34 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 5 | 0.69 | 0.62-0.76 | <0.00001 | 0% | 0.59 |
| ≥2nd-line monotherapy | 5 | 0.77 | 0.70-0.85 | <0.00001 | 14% | 0.33 |
| Primary gastric tumour | Total | 6 | 0.87 | 0.77-0.99 | 0.04 | 50% | 0.07 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 3 | 0.79 | 0.71-0.88 | <0.0001 | 0% | 0.55 |
| ≥2nd-line monotherapy | 2 | 1.07 | 0.88-1.30 | 0.50 | 47% | 0.17 |
| Primary oesophagogastric junction tumour | Total | 6 | 0.89 | 0.76-1.03 | 0.12 | 0% | 0.42 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 3 | 0.93 | 0.75-1.15 | 0.50 | 0% | 0.93 |
| ≥2nd-line monotherapy | 2 | 0.71 | 0.53-0.95 | 0.02 | 28% | 0.24 |
| 0 prior therapy | Total | 9 | 0.77 | 0.72-0.82 | <0.00001 | 40% | 0.10 |
| Treatment regimen | | | | | | |
| 1st-line combination therapy | 8 | 0.76 | 0.71-0.81 | <0.00001 | 41% | 0.11 |
| Tumor site | | | | | | |
| EC | 5 | 0.69 | 0.62-0.76 | <0.00001 | 0% | 0.59 |
| GEJC/GC | 3 | 0.88 | 0.78-0.99 | 0.04 | 0% | 0.89 |
| 1 prior therapy | Total | 6 | 0.78 | 0.71-0.85 | <0.00001 | 0% | 0.42 |
| Treatment regimen | | | | | | |
| ≥2nd-line monotherapy | 6 | 0.78 | 0.71-0.85 | <0.00001 | 0% | 0.42 |
| Tumor site | | | | | | |
| EC | 5 | 0.77 | 0.70-0.85 | <0.00001 | 14% | 0.33 |
| GEJC/GC | 1 | 0.82 | 0.66-1.03 | 0.09 |  |  |
| CPS: Combined positive score; EC: Esophageal cancer; GC: Gastric cancer; GEJC: Gastroesophageal cancer; HR: Hazard ratio; ICI: Immune checkpoint inhibitors; PS: Performance status. | | | | | | | |

**Table S3 The sensitivity analyses of the studies**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sensitivity analyses | No. of studies | No. of patients | PFS  HR (95% CI) | No. of patients | OS  HR (95% CI) |
| Total studies | 16 | 9,194 | 0.87 (0.73-1.03) | 9,194 | 0.78 (0.73-0.84) |
| CheckMate 648 excluded | 15 | 8,549 | 0.87 (0.73-1.05) | 8,549 | 0.79 (0.73-0.85) |
| ESCORT excluded | 15 | 8,746 | 0.88 (0.73-1.06) | 8,746 | 0.79 (0.73-0.85) |
| ATTRACTION-3 excluded | 15 | 8,775 | 0.86 (0.71-1.03) | 8,775 | 0.78 (0.73-0.85) |
| KEYNOTE-181 excluded | 15 | 8,566 | 0.85 (0.71-1.03) | 8,566 | 0.78 (0.72-0.84) |
| ESCORT-1st excluded | 15 | 8,598 | 0.90 (0.75-1.07) | 8,598 | 0.79 (0.73-0.85) |
| ORIENT-15 excluded | 15 | 8,535 | 0.90 (0.75-1.07) | 8,535 | 0.80 (0.76-0.85) |
| RATIONALE 302 excluded | 15 | 8,682 | 0.87 (0.72-1.05) | 8,682 | 0.79 (0.73-0.85) |
| KEYNOTE-590 excluded | 15 | 8,445 | 0.89 (0.74-1.06) | 8,445 | 0.79 (0.73-0.85) |
| JUPITER-06 excluded | 15 | 8,680 | 0.89 (0.75-1.07) | 8,680 | 0.80 (0.76-0.84) |
| ORIENT-2 excluded | 15 | 9,005 | 0.86 (0.72-1.03) | 9,005 | 0.79 (0.73-0.85) |
| CheckMate 649 excluded | 15 | 7,613 | 0.88 (0.72-1.06) | 7,613 | 0.78 (0.72-0.85) |
| JAVELIN Gastric 300 excluded | 15 | 8,823 | 0.83 (0.71-0.98) | 8,823 | 0.77 (0.73-0.82) |
| KEYNOTE-061 excluded | 15 | 8,799 | 0.85 (0.71-1.01) | 8,799 | 0.78 (0.72-0.85) |
| KEYNOTE-062 (Pem vs Chemo) excluded | 15 | 8,938 | 0.83 (0.71-0.98) | 8,938 | 0.78 (0.72-0.84) |
| KEYNOTE-062 (Pem+Chemo vs Chemo) excluded | 15 | 8,937 | 0.87 (0.72-1.05) | 8,937 | 0.78 (0.72-0.84) |
| ATTRACTION-4 excluded | 15 | 8,470 | 0.88 (0.74-1.06) | 8,470 | 0.78 (0.74-0.82) |
| HR: Hazard ratio; OS: Overall survival; PFS: Progression-free survival. | | | | | |