**Supplementary Table 1.** Summary of eligible studies.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Author, year** | **Country/Region** | **No. of patients** | **MSI-H testing method** | **Sample size (MSI-H)** | **Sample size (MSI-L/MSS)** | **Age (mean, years)** | **Gender**  **Male (%)** | **Quality assessment** |
| Abe,20121 | Japan | 793 | IHC | 136 | 657 | 65 | 68.5 | 7 |
| Ahn,20172; Kim,20133 | Korea | 414 | PCR, IHC | 23 | 391 | 62 | 64.5 | 8 |
| An,20124; Kim,20115; Jahng,20126 | Korea | 1990 | PCR | 170 | 1820 | 59 | 66.9 | 8 |
| An,20207 | Korea | 790 | PCR, IHC | 64 | 726 | 57 | NR | 7 |
| Bacani,20058 | Canada | 139 | PCR, IHC | 7 | 132 | 42 | 62.6 | 7 |
| Beghelli,20069 | Italy | 510 | PCR, IHC | 83 | 427 | 64 | 62.6 | 7 |
| Bermudez,202110 | Spain | 142 | IHC | 23 | 119 | 65 | 62.7 | 8 |
| Bevilacqua,200011 | Brazil | 42 | PCR | 8 | 34 | 62 | 50.0 | 7 |
| Biesma,202212 | Netherlands | 901 | PCR, IHC | 74 | 827 | 64 | 62.6 | 9 |
| Buonsanti,199713 | Italy | 98 | PCR | 14 | 84 | NR | NR | 7 |
| Cai,202014 | China | 271 | PCR | 28 | 243 | 65 | 67.2 | 8 |
| Cai,202115; Cai,202016 | China | 1757 | PCR, IHC | 185 | 1572 | 64 | 67.8 | 8 |
| Carvalho,200417 | Netherlands | 62 | PCR, IHC | 0 | 62 | 33 | NR | 7 |
| Chakraborty,202118 | India | 80 | PCR | 32 | 48 | 60 | 53.8 | 8 |
| Chang,200219 | Korea | 129 | PCR | 20 | 109 | 55 | NR | 7 |
| Chang,201820; Cho,201821 | Korea | 204 | PCR | 79 | 125 | NR | NR | 7 |
| Chao,202122;Shitara,201823; Shitara,202024 | Multi-country | 1614 | PCR | 84 | 1530 | 62 | 71.1 | 9 |
| Chiaravalli,200625 | Italy | 96 | IHC | 35 | 61 | 66 | 59.4 | 7 |
| Choi,200026 | Korea | 118 | PCR | 20 | 98 | 59 | 67.0 | 7 |
| Choi,201527 | Korea | 623 | PCR | 68 | 555 | 61 | 68.2 | 8 |
| Choi,201928 | Korea | 592 | PCR | 40 | 552 | 57 | 70.1 | 7 |
| Choi,202029 | Korea | 514 | PCR, IHC | 53 | 461 | 65 | 67.5 | 8 |
| Chong,199430 | Japan | 76 | PCR | 25 | 51 | NR | NR | 6 |
| Chung,199931 | Korea | 51 | PCR | 11 | 40 | NR | NR | 7 |
| Cordova-Delgado,201932 | Chile | 48 | NGS | 7 | 41 | NR | 72.9 | 7 |
| Czopek,200233 | Poland | 76 | PCR | 11 | 65 | 63 | NR | 8 |
| Dai,202034 | China | 89 | PCR | 18 | 71 | NR | 75.3 | 7 |
| Daun,202135 | Switzerland | 115 | NGS | 20 | 95 | 74 | 64.4 | 8 |
| De Meulder,202236 | Belgium | 114 | PCR, IHC | 11 | 103 | 67 | 63.6 | 7 |
| D'Errico,200937 | Italy | 131 | PCR | 20 | 111 | NR | NR | 7 |
| Di Bartolomeo,202038 | Italy | 256 | PCR | 24 | 232 | 62 | NR | 8 |
| Dislich,202039 | Switzerland | 415 | IHC | 49 | 366 | 71 | 61.9 | 7 |
| Falchetti,200840 | Italy | 159 | PCR, IHC | 27 | 132 | NR | 64.8 | 7 |
| Fang,199941; Fang,200142 | China | 68 | PCR | 8 | 60 | NR | 73.6 | 7 |
| Fang,201943 | Taiwan | 356 | PCR | 34 | 322 | NR | NR | 7 |
| Fang,202044; Huang,202045 | Taiwan | 360 | PCR, IHC | 59 | 301 | NR | 68.1 | 7 |
| Fukushima,202246 | Japan | 115 | PCR | 48 | 67 | NR | 28.7 | 7 |
| Furlan,200247 | Italy | 300 | PCR, IHC | 55 | 245 | NR | NR | 7 |
| Giampieri,201748 | Italy | 103 | IHC | 15 | 88 | NR | 68.9 | 7 |
| Grundei,200049 | Germany | 37 | PCR | 2 | 35 | 54 | NR | 7 |
| Guan,202150 | China | 890 | PCR, IHC | 196 | 694 | 58 | 64.0 | 8 |
| Haag,201951 | Germany | 101 | PCR, IHC | 9 | 92 | 61 | NR | 8 |
| Halling,199952 | US and Italy | 117 | PCR, IHC | 10 | 107 | 67 | 72.7 | 8 |
| Haron,201953 | Malaysia | 60 | PCR, NGS | 10 | 50 | NR | 63.3 | 7 |
| Hasegawa,202254 | Japan | 31 | PCR | 7 | 24 | 69 | NR | 7 |
| Hasuo,200755 | Japan | 110 | PCR, IHC | 9 | 101 | NR | 67.3 | 7 |
| Hayden,199756 | UK | 101 | PCR | 21 | 80 | 70 | 63.4 | 7 |
| Herz,202257 | Germany | 583 | PCR, IHC | 53 | 530 | 63 | NR | 7 |
| Hewitt,201858 | UK, Japan | 1094 | IHC | 113 | 981 | NR | 67.6 | 7 |
| Hirata,200759; Suzuki,199960; Yamamoto,199961 | Japan | 205 | PCR | 30 | 175 | NR | NR | 7 |
| Hiyama,200462 | Japan | 98 | PCR | 12 | 86 | NR | 71.4 | 7 |
| Huang,201063 | China | 276 | PCR | 23 | 253 | 60 | 68.9 | 7 |
| Huang,201964 | Taiwan | 1248 | IHC | 116 | 1132 | 66 | 62.3 | 8 |
| Huang,202165 | China | 192 | NGS | 13 | 179 | 62 | 67.8 | 7 |
| Jee,199766 | Korea | 77 | PCR | 17 | 60 | 59 | 54.6 | 7 |
| Jiao,200467 | Japan | 76 | PCR | 8 | 68 | NR | NR | 7 |
| Karpinska-Kaczmarczyk,201668 | Poland | 107 | IHC | 6 | 101 | 65 | 62.6 | 8 |
| Kim,200369 | Korea | 79 | PCR | 36 | 43 | NR | 64.6 | 7 |
| Kim,200370 | Korea | 116 | PCR | 16 | 100 | 61 | 59.5 | 7 |
| Kim,201071 | Korea | 128 | PCR | 14 | 114 | 60 | 68.8 | 7 |
| Kim,201572; Shin,201973 | Korea | 1276 | PCR, IHC | 105 | 1171 | 58 | 68.3 | 7 |
| Kim,201674 | Korea | 434 | PCR | 41 | 393 | 62 | 68.0 | 7 |
| Kim,201875 | Korea | 61 | PCR, IHC | 7 | 54 | 57 | NR | 9 |
| Kim,201976 | Korea | 297 | IHC | 32 | 265 | 63 | NR | 7 |
| Kim,202077 | Korea | 359 | PCR | 41 | 318 | 60 | 65.7 | 8 |
| Kim,202178 | Korea | 185 | IHC | 19 | 166 | 59 | NR | 7 |
| Kleo,202279 | Germany | 29 | PCR | 4 | 25 | 64 | 62.1 | 7 |
| Kohlruss,202180; Kohlruss,201981 | Germany | 717 | PCR | 67 | 650 | 65 | 73.8 | 8 |
| Lee,200182 | China | 109 | PCR | 24 | 85 | 58 | 67.9 | 7 |
| Lee,200283; Chang,200384 | Korea | 327 | PCR, IHC | 31 | 296 | 55 | 67.6 | 7 |
| Lee,202085 | Korea | 136 | PCR | 16 | 120 | 57 | NR | 7 |
| Leite,201186 | Portugal, Italy | 410 | PCR, IHC | 95 | 315 | 67 | 67.0 | 7 |
| Li,200587 | China | 46 | PCR | 12 | 34 | NR | NR | 7 |
| Li,202188 | China | 377 | PCR | 13 | 364 | 59 | 72.4 | 7 |
| Li,202189 | China | 1568 | PCR | 128 | 1440 | 60 | 71.7 | 7 |
| Lim,201490; Koh,201991; Park,202192 | Korea | 1107 | PCR | 86 | 1021 | 59 | NR | 8 |
| Lin,199593; Wu,199794 | Taiwan | 59 | PCR | 20 | 39 | NR | 60.0 | 7 |
| Liu,200595 | China | 36 | PCR | 7 | 29 | 59 | 69.4 | 8 |
| Liu,201896 | US | 383 | NGS | 73 | 310 | 65 | 65.8 | 9 |
| Liu,202097; Cristescu,201598 | Korea | 300 | IHC, NGS | 67 | 233 | NR | 66.3 | 7 |
| Ma,200999 | China | 90 | PCR | 13 | 77 | NR | 74.4 | 7 |
| Ma,2016100 | US | 44 | IHC | 16 | 28 | 73 | 56.9 | 7 |
| Mizoshita,2005101 | Japan | 70 | PCR, IHC | 13 | 57 | NR | NR | 6 |
| Moehler,2020102 | Multi-country | 432 | PCR | 13 | 419 | 62 | 66.3 | 9 |
| Oh,2021103 | Korea | 838 | PCR | 100 | 738 | 58 | 63.0 | 7 |
| Oki,2009104 | Japan | 240 | PCR | 22 | 218 | 64 | 60.3 | 7 |
| Oki,2009105; Sakurai,2007106 | Japan | 56 | PCR | 4 | 52 | 62 | 60.7 | 7 |
| Ottini,1997107 | Italy | 108 | PCR, IHC | 33 | 75 | NR | 64.8 | 7 |
| Palli,2001108 | Italy | 126 | PCR | 43 | 83 | NR | 65.1 | 7 |
| Park,2010109 | Korea | 191 | PCR | 28 | 163 | 57 | NR | 7 |
| Park,2017110 | Korea | 52 | PCR | 8 | 44 | 66 | 63.5 | 8 |
| Pascua,2015111 | Spain | 75 | PCR | 14 | 61 | NR | NR | 7 |
| Pereira,2018112 | Brazil | 222 | IHC | 60 | 162 | 62 | 58.1 | 7 |
| Pietrantonio,2019113 | Multi-country | 1556 | PCR | 121 | 1435 | 59 | 70.1 | 9 |
| Pinto,2000114; Santos,1996115 | Portugal | 57 | PCR | 28 | 29 | 63 | 49.1 | 7 |
| Polom,2018116 | Italy, German | 176 | PCR | 14 | 162 | 66 | 56.8 | 7 |
| Polom,2019117; Polom,2016118; Pedrazzani,2009119; Marrelli,2016120; Corso,2009121; Corso,2011122 | Italy | 595 | PCR | 121 | 474 | 75 | 60.0 | 9 |
| Pretzsch,2022123 | Germany | 189 | IHC | 19 | 170 | 65 | 63.0 | 7 |
| Quaas,2021124 | Germany | 582 | PCR, IHC | 44 | 538 | NR | 66.3 | 7 |
| Ramos,2021125 | Brazil | 287 | IHC | 58 | 229 | 61 | 70.0 | 8 |
| Renault,1996126 | Italy | 40 | PCR | 13 | 27 | NR | NR | 7 |
| Rugge,2005127 | Italy | 55 | PCR, IHC | 5 | 50 | NR | NR | 7 |
| Schlintl,2022128 | Austria | 39 | PCR, IHC, NGS | 8 | 31 | 58 | NR | 7 |
| Schneider,2000129 | US, Colombia, Chile, Korea | 169 | PCR | 29 | 140 | 67 | 67.0 | 7 |
| Seo,2009130 | Korea | 328 | PCR, IHC | 27 | 301 | NR | 72.3 | 7 |
| Sepulveda,1999131 | US, Colombia, Korea | 68 | PCR | 16 | 52 | NR | NR | 7 |
| Seruca,1995132 | Portugal | 34 | PCR | 11 | 23 | 62 | 58.8 | 7 |
| Shen,2017133 | China | 202 | PCR | 15 | 187 | NR | 68.8 | 7 |
| Shirai,2006134 | Japan | 181 | PCR | 16 | 165 | 62 | 72.9 | 8 |
| Shitara,2022135; Janjigian,2021136 | Multi-country | 1421 | NR | 44 | 1377 | 62 | 69.6 | 9 |
| Stanek,2022137 | Czech | 40 | IHC | 16 | 24 | NR | NR | 6 |
| Sugimoto,2021138; Sugai,2018139; Sugimoto,2016140 | Japan | 330 | PCR | 45 | 285 | 75 | 73.9 | 8 |
| Takahashi,2002141 | Japan | 65 | PCR | 14 | 51 | 66 | NR | 7 |
| Tanabe,2021142 | Japan | 94 | PCR, IHC | 10 | 84 | 73 | 76.6 | 8 |
| Theuer,2002143 | Japan, US | 38 | PCR | 11 | 27 | 69 | 52.6 | 7 |
| Vauhkonen,2005144 | Finland | 37 | PCR | 7 | 30 | NR | 59.5 | 7 |
| Velho,2005145 | Portugal | 47 | PCR | 26 | 21 | NR | NR | 7 |
| Wang,2021146 | China | 205 | IHC | 46 | 159 | NR | NR | 7 |
| Wu,2004147 | Japan | 62 | PCR | 14 | 48 | NR | NR | 6 |
| Wu,2020148; Fang,2012149 | Taiwan | 433 | PCR | 40 | 393 | 67 | 71.0 | 7 |
| Xiao,2006150 | China | 50 | PCR | 11 | 39 | NR | NR | 6 |
| Yamada,2002151 | Japan | 96 | PCR | 14 | 82 | 65 | 69.8 | 7 |
| Yamashita,2013152 | Japan | 123 | PCR | 12 | 111 | NR | NR | 6 |
| Yamazaki,2006153 | Japan | 219 | PCR | 16 | 203 | NR | NR | 7 |
| Yoshida,2022154 | Japan | 379 | PCR | 24 | 355 | NR | NR | 7 |
| Yu,2021155 | China | 529 | NGS | 60 | 469 | NR | NR | 7 |
| Yu,2022156 | Taiwan | 52 | IHC | 8 | 44 | 66 | NR | 7 |
| Yuza,2021157 | Japan | 124 | NGS | 13 | 111 | 68 | NR | 7 |
| Zaky,2008158 | Japan | 95 | PCR | 31 | 64 | 67 | 82.1 | 7 |
| Zhang,2018159 | China | 567 | IHC | 57 | 510 | NR | 68.4 | 7 |
| Zhang,2021160;Wang,2022161 | China | 2031 | IHC, NGS | 140 | 1891 | NR | 28.1 | 7 |
| Zhang,2021162 | China | 150 | NGS | 8 | 142 | 61 | NR | 8 |
| Zhao,2004163; Leung,1999164 | China | 94 | PCR | 21 | 73 | NR | 70.9 | 7 |
| Zhao,2015165 | China | 210 | PCR | 22 | 188 | 64 | 66.2 | 7 |

IHC, immunohistochemistry; MSI-H, microsatellite instability-high; MSI-L, microsatellite instability-low; MSS, microsatellite stable; NGS, next generation sequencing; NR, not reported; PCR, polymerase chain reaction.

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