

We claim

- 1) A polypeptide comprising
 - a) one or more amino acid sequences selected from the group consisting of SEQ ID NOs: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99, 101, 103, 105, 107, 109, 111, 113, 115, 117, 119, 121, 123, 125, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165, 167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225, 227, 229, 231, 233, 235, 237, 239, 241, 243, 245, 247, 249, 251, 253, 255, 257, 259, 261, 263, 265, 267, 269, 271, 273, 275, 277, 279, 281, 283, 285, 287, 289, 291, 293, 295, 297, 299, 301, 303, 305, 307, 309, 311, 313, 315, 317, 319, 321, 323, 325, 327, 329, 331, 333, 335, 337, 339, 341, 343, 345, 347, 349, 351, 353, 355, 357, 359, 361, 363, 365, 367, 369, 371, 373, 375, 377, 379, 381, 383, 385, 387, 389, 391, 393, 395, 397, 399, 401, 403, or 405, or fragments thereof;
 - b) one or more an amino acid sequences that are at least 90% identical to the amino acid sequences selected from the group consisting of SEQ ID NOs: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99, 101, 103, 105, 107, 109, 111, 113, 115, 117, 119, 121, 123, 125, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165, 167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225, 227, 229, 231, 233, 235, 237, 239, 241, 243, 245, 247, 249, 251, 253, 255, 257, 259, 261, 263, 265, 267, 269, 271, 273, 275, 277, 279, 281, 283, 285, 287, 289, 291, 293, 295, 297, 299, 301, 303, 305, 307, 309, 311, 313, 315, 317, 319, 321, 323, 325, 327, 329, 331, 333, 335, 337, 339, 341, 343, 345, 347, 349, 351, 353, 355, 357, 359, 361, 363, 365, 367, 369, 371, 373, 375, 377, 379, 381, 383, 385, 387, 389, 391, 393, 395, 397, 399, 401, 403, or 405, or fragments thereof.
 - c) one or more amino acid sequences selected from the group consisting of SEQ ID NOs: 1, 3, 5, 11, 15, 17, 19, 21, 25, 29, 31, 33, 39, 43, 45, 49, 53, 59, 63, 65, 67, 81, 85, 87, 89, 91, 95, 97, 111, 113, 115, 119, 123, 127, 129, 145, 177, 179, 181, 183, 185, 187, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 215, 219, 221, 223, 229, 233, 235, 237, 239, 241, 243, 245, 247, 251, 255, 257, 259, 261, 263, 267, 271, 279, 281, 285, 293, 295, 297, 301, 303, 305, 307, 309, 319, 323, 325, 337, 339, 343, 345, 349, 371, or 375, or fragments thereof; or

- d) one or more amino acid sequences that are at least 90% identical to the amino acid sequences selected from the group consisting of SEQ ID NOs: 1, 3, 5, 11, 15, 17, 19, 21, 25, 29, 31, 33, 39, 43, 45, 49, 53, 59, 63, 65, 67, 81, 85, 87, 89, 91, 95, 97, 111, 113, 115, 119, 123, 127, 129, 145, 177, 179, 181, 183, 185, 187, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 215, 219, 221, 223, 229, 233, 235, 237, 239, 241, 243, 245, 247, 251, 255, 257, 259, 261, 263, 267, 271, 279, 281, 285, 293, 295, 297, 301, 303, 305, 307, 309, 319, 323, 325, 337, 339, 343, 345, 349, 371, or 375, or fragments thereof.
- 2) The polypeptide of claim 1, wherein the one or more amino acid sequences are connected to each other in any order.
- 3) The polypeptide of claim 1, wherein the one or more amino acid sequences are connected to each other in any order without a linker.
- 4) The polypeptide of any one of claims 1-3, wherein the polypeptide comprises one or more reverse peptide bonds, D-isomers of amino acids or chemical modifications, or any combination thereof.
- 5) A polynucleotide encoding a polypeptide of any one of claims 1-4.
- 6) The polynucleotide of claim 5,
 - a) wherein the polynucleotide is selected from the group consisting of SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224, 226, 228, 230, 232, 234, 236, 238, 240, 242, 244, 246, 248, 250, 252, 254, 256, 258, 260, 262, 264, 266, 268, 270, 272, 274, 276, 278, 280, 282, 284, 286, 288, 290, 292, 294, 296, 298, 300, 302, 304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 324, 326, 328, 330, 332, 334, 336, 338, 340, 342, 344, 346, 348, 350, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 372, 374, 376, 378, 380, 382, 384, 386, 388, 390, 392, 394, 396, 398, 400, 402, 404, or 406, or fragments thereof;
 - b) wherein the polynucleotide is selected from the group consisting of SEQ ID NOs: 2, 4, 6, 12, 16, 18, 20, 22, 26, 30, 32, 34, 40, 44, 46, 50, 54, 60, 64, 68, 82, 86, 88,

90, 92, 96, 98, 112, 114, 116, 120, 124, 128, 130, 146, 178, 180, 182, 184, 186, 188, 192, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 216, 220, 222, 224, 230, 234, 236, 238, 240, 242, 244, 246, 248, 252, 256, 258, 260, 262, 264, 268, 272, 280, 282, 286, 294, 296, 298, 302, 304, 306, 308, 310, 320, 324, 326, 338, 340, 344, 346, 350, 372, or 376, or fragments thereof;

- c) wherein the polynucleotide is at least 90% identical to the polynucleotide of SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224, 226, 228, 230, 232, 234, 236, 238, 240, 242, 244, 246, 248, 250, 252, 254, 256, 258, 260, 262, 264, 266, 268, 270, 272, 274, 276, 278, 280, 282, 284, 286, 288, 290, 292, 294, 296, 298, 300, 302, 304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 324, 326, 328, 330, 332, 334, 336, 338, 340, 342, 344, 346, 348, 350, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 372, 374, 376, 378, 380, 382, 384, 386, 388, 390, 392, 394, 396, 398, 400, 402, 404, or 406, or fragments thereof; or
- d) wherein the polynucleotide is at least 90% identical to the polynucleotide of SEQ ID NOs: 2, 4, 6, 12, 16, 18, 20, 22, 26, 30, 32, 34, 40, 44, 46, 50, 54, 60, 64, 68, 82, 86, 88, 90, 92, 96, 98, 112, 114, 116, 120, 124, 128, 130, 146, 178, 180, 182, 184, 186, 188, 192, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 216, 220, 222, 224, 230, 234, 236, 238, 240, 242, 244, 246, 248, 252, 256, 258, 260, 262, 264, 268, 272, 280, 282, 286, 294, 296, 298, 302, 304, 306, 308, 310, 320, 324, 326, 338, 340, 344, 346, 350, 372, or 376, or fragments thereof.

- 7) The isolated polynucleotide of claim 6, wherein the polynucleotide comprises DNA or RNA.
- 8) The isolated polynucleotide of claim 7, wherein the RNA is mRNA.
- 9) A vector comprising the polynucleotide of any one of claims 5-8.
- 10) The vector of claim 9, wherein the vector is selected from an adenovirus vector, a poxvirus vector, adeno-associated virus vector, a retrovirus vector, a self-replicating RNA molecule, and a combination thereof.

- 11) The vector of claim 10, wherein the adenovirus vector is derived from hAd5, hAd7, hAd11, hAd26, hAd34, hAd35, hAd48, hAd49, hAd50, GAd20, Gad19, GAd21, GAd25, GAd26, GAd27, GAd28, GAd29, GAd30, GAd31, ChAd3, ChAd4, ChAd5, ChAd6, ChAd7, ChAd8, ChAd9, ChAd10, ChAd11, ChAdI6, ChAdI7, ChAdI9, ChAd20, ChAd22, ChAd24, ChAd26, ChAd30, ChAd31, ChAd37, ChAd38, ChAd44, ChAd55, ChAd63, ChAd73, ChAd82, ChAd83, ChAd146, ChAd147, PanAd1, PanAd2, or PanAd3..
- 12) The vector of claim 10, wherein the poxvirus vector is selected from smallpox virus vector, vaccinia virus vector, cowpox virus vector, monkeypox virus vector, Copenhagen vaccinia virus (W) vector, New York Attenuated Vaccinia Virus (NYVAC) vector, and Modified Vaccinia Ankara (MVA) vector.
- 13) The vector of claim 10, wherein the vector is the adenovirus vector comprising a polynucleotide encoding any one of the polypeptides of any one of claims 1-4.
- 14) The vector of claim 10, wherein the vector is the poxvirus vector comprising a polynucleotide encoding any one of the polypeptides of any one of claims 1-4.
- 15) The vector of claim 10, wherein the vector is the self-replicating RNA molecule comprising a polynucleotide encoding any one of the polypeptides of any one of claims 1-3.
- 16) The vector of claim 11, wherein the vector is an Ad26 vector comprising a polynucleotide encoding one or more polypeptides selected from the group consisting of SEQ ID NOs: 1, 3, 5, 11, 15, 17, 19, 21, 25, 29, 31, 33, 39, 43, 45, 49, 53, 59, 63, 65, 67, 81, 85, 87, 89, 91, 95, 97, 111, 113, 115, 119, 123, 127, 129, 145, 177, 179, 181, 183, 185, 187, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 215, 219, 221, 223, 229, 233, 235, 237, 239, 241, 243, 245, 247, 251, 255, 257, 259, 261, 263, 267, 271, 279, 281, 285, 293, 295, 297, 301, 303, 305, 307, 309, 319, 323, 325, 337, 339, 343, 345, 349, 371, 375, or fragments thereof; or encoding one or more polypeptides having at least 90% sequence identity to SEQ ID NOs: 1, 3, 5, 11, 15, 17, 19, 21, 25, 29, 31, 33, 39, 43, 45, 49, 53, 59, 63, 65, 67, 81, 85, 87, 89, 91, 95, 97, 111, 113, 115, 119, 123, 127, 129, 145, 177, 179, 181, 183, 185, 187, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 215, 219, 221, 223, 229, 233, 235, 237, 239, 241, 243, 245, 247, 251, 255, 257, 259, 261, 263, 267, 271, 279, 281, 285, 293, 295, 297, 301, 303, 305, 307, 309, 319, 323, 325, 337, 339, 343, 345, 349, 371, 375, or fragments thereof.

- 17) The vector of claim 11, wherein the vector is an GAd20 vector comprising a polynucleotide encoding one or more polypeptides selected from the group consisting of SEQ ID NOs: 1, 3, 5, 11, 15, 17, 19, 21, 25, 29, 31, 33, 39, 43, 45, 49, 53, 59, 63, 65, 67, 81, 85, 87, 89, 91, 95, 97, 111, 113, 115, 119, 123, 127, 129, 145, 177, 179, 181, 183, 185, 187, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 215, 219, 221, 223, 229, 233, 235, 237, 239, 241, 243, 245, 247, 251, 255, 257, 259, 261, 263, 267, 271, 279, 281, 285, 293, 295, 297, 301, 303, 305, 307, 309, 319, 323, 325, 337, 339, 343, 345, 349, 371, 375, or fragments thereof; or encoding one or more polypeptides having at least 90% sequence identity to SEQ ID NOs: 1, 3, 5, 11, 15, 17, 19, 21, 25, 29, 31, 33, 39, 43, 45, 49, 53, 59, 63, 65, 67, 81, 85, 87, 89, 91, 95, 97, 111, 113, 115, 119, 123, 127, 129, 145, 177, 179, 181, 183, 185, 187, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 215, 219, 221, 223, 229, 233, 235, 237, 239, 241, 243, 245, 247, 251, 255, 257, 259, 261, 263, 267, 271, 279, 281, 285, 293, 295, 297, 301, 303, 305, 307, 309, 319, 323, 325, 337, 339, 343, 345, 349, 371, 375, or fragments thereof.
- 18) The vector of claim 11, wherein the vector is an MVA vector comprising a polynucleotide encoding one or more polypeptides selected from the group consisting of SEQ ID NOs: 1, 3, 5, 11, 15, 17, 19, 21, 25, 29, 31, 33, 39, 43, 45, 49, 53, 59, 63, 65, 67, 81, 85, 87, 89, 91, 95, 97, 111, 113, 115, 119, 123, 127, 129, 145, 177, 179, 181, 183, 185, 187, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 215, 219, 221, 223, 229, 233, 235, 237, 239, 241, 243, 245, 247, 251, 255, 257, 259, 261, 263, 267, 271, 279, 281, 285, 293, 295, 297, 301, 303, 305, 307, 309, 319, 323, 325, 337, 339, 343, 345, 349, 371, 375, or fragments thereof; or encoding one or more polypeptides having at least 90% sequence identity to SEQ ID NOs: 1, 3, 5, 11, 15, 17, 19, 21, 25, 29, 31, 33, 39, 43, 45, 49, 53, 59, 63, 65, 67, 81, 85, 87, 89, 91, 95, 97, 111, 113, 115, 119, 123, 127, 129, 145, 177, 179, 181, 183, 185, 187, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 215, 219, 221, 223, 229, 233, 235, 237, 239, 241, 243, 245, 247, 251, 255, 257, 259, 261, 263, 267, 271, 279, 281, 285, 293, 295, 297, 301, 303, 305, 307, 309, 319, 323, 325, 337, 339, 343, 345, 349, 371, 375, or fragments thereof.
- 19) The vector of claim 11, wherein the vector is self-replicating RNA molecule comprising a polynucleotide encoding one or more polypeptides selected from the group consisting of SEQ ID NOs: 1, 3, 5, 11, 15, 17, 19, 21, 25, 29, 31, 33, 39, 43, 45, 49, 53, 59, 63, 65, 67, 81, 85, 87,

89, 91, 95, 97, 111, 113, 115, 119, 123, 127, 129, 145, 177, 179, 181, 183, 185, 187, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 215, 219, 221, 223, 229, 233, 235, 237, 239, 241, 243, 245, 247, 251, 255, 257, 259, 261, 263, 267, 271, 279, 281, 285, 293, 295, 297, 301, 303, 305, 307, 309, 319, 323, 325, 337, 339, 343, 345, 349, 371, 375, or fragments thereof; or encoding one or more polypeptides having at least 90% sequence identity to SEQ ID NOs: 1, 3, 5, 11, 15, 17, 19, 21, 25, 29, 31, 33, 39, 43, 45, 49, 53, 59, 63, 65, 67, 81, 85, 87, 89, 91, 95, 97, 111, 113, 115, 119, 123, 127, 129, 145, 177, 179, 181, 183, 185, 187, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 215, 219, 221, 223, 229, 233, 235, 237, 239, 241, 243, 245, 247, 251, 255, 257, 259, 261, 263, 267, 271, 279, 281, 285, 293, 295, 297, 301, 303, 305, 307, 309, 319, 323, 325, 337, 339, 343, 345, 349, 371, 375, or fragments thereof.

20) A pharmaceutical composition comprising a polypeptide of any one of claims 1-4.

21) A pharmaceutical composition comprising a polynucleotide of any one of claims 5-7.

22) A pharmaceutical composition comprising a recombinant virus comprising a vector of any one of claims 9-18.

23) The pharmaceutical composition of claim 22, wherein the recombinant virus is selected from an Ad26 virus, a MVA virus, or a GAd20 virus, and combinations thereof.

24) ~~A method of inducing an immune response in a subject comprising administering to the subject in need thereof a~~ The pharmaceutical composition of any one of claims 20-23 for use in therapy.

25) ~~A method of inducing an immune response in a subject comprising administering to the subject in need thereof a~~ composition comprising a recombinant virus or a self-replicating RNA molecule comprising

a polynucleotide encoding at least one or more polypeptide sequences selected from the group consisting of SEQ ID NOs: 1, 3, 5, 11, 15, 17, 19, 21, 25, 29, 31, 33, 39, 43, 45, 49, 53, 59, 63, 65, 67, 81, 85, 87, 89, 91, 95, 97, 111, 113, 115, 119, 123, 127, 129, 145, 177, 179, 181, 183, 185, 187, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 215, 219, 221, 223, 229, 233, 235, 237, 239, 241, 243, 245, 247, 251, 255, 257, 259, 261, 263, 267, 271, 279, 281, 285, 293, 295, 297, 301, 303, 305, 307, 309, 319, 323, 325, 337, 339, 343, 345, 349, 371, or 375, or fragments thereof; or

a polynucleotide encoding one or more polypeptides having at least 90% sequence identity to SEQ ID NOs: 1, 3, 5, 11, 15, 17, 19, 21, 25, 29, 31, 33, 39, 43, 45, 49, 53, 59, 63, 65, 67, 81, 85, 87, 89, 91, 95, 97, 111, 113, 115, 119, 123, 127, 129, 145, 177, 179, 181, 183, 185, 187, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 215, 219, 221, 223, 229, 233, 235, 237, 239, 241, 243, 245, 247, 251, 255, 257, 259, 261, 263, 267, 271, 279, 281, 285, 293, 295, 297, 301, 303, 305, 307, 309, 319, 323, 325, 337, 339, 343, 345, 349, 371, or 375, or fragments thereof, and

wherein the recombinant virus is selected from Ad26, MVA, or GAd20,

for use in therapy, wherein the composition is to be administered to a subject in need thereof,

and wherein the administration comprises one or more administrations of the composition.

- 26) ~~A method of treating, preventing, reducing a risk of onset or delaying the onset of ovarian cancer in a subject comprising administering to the subject in need thereof a~~Use of the pharmaceutical composition of any one of claims 20-23 in the manufacture of a medicament for the treatment, prevention or reduction of a risk of onset or delay of the onset of ovarian cancer in a subject in need thereof, wherein the composition is to be administered to the subject.

- 27) ~~A method of treating, preventing, reducing a risk of onset or delaying the onset of ovarian cancer in a subject comprising administering to the subject in need thereof a~~Use of a composition comprising recombinant virus or a self-replicating RNA molecule comprising

a polynucleotide encoding at least one or more polypeptide sequences selected from the group consisting of SEQ ID NOs: 1, 3, 5, 11, 15, 17, 19, 21, 25, 29, 31, 33, 39, 43, 45, 49, 53, 59, 63, 65, 67, 81, 85, 87, 89, 91, 95, 97, 111, 113, 115, 119, 123, 127, 129, 145, 177, 179, 181, 183, 185, 187, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 215, 219, 221, 223, 229, 233, 235, 237, 239, 241, 243, 245, 247, 251, 255, 257, 259, 261, 263, 267, 271, 279, 281, 285, 293, 295, 297, 301, 303, 305, 307, 309, 319, 323, 325, 337, 339, 343, 345, 349, 371, 375, or fragments thereof; or

a polynucleotide encoding one or more polypeptides having at least 90% sequence identity to SEQ ID NOs: 1, 3, 5, 11, 15, 17, 19, 21, 25, 29, 31, 33, 39, 43, 45, 49, 53, 59, 63, 65, 67, 81, 85, 87, 89, 91, 95, 97, 111, 113, 115, 119, 123, 127, 129, 145, 177, 179, 181, 183, 185, 187, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 215, 219, 221, 223, 229, 233, 235, 237, 239, 241, 243, 245, 247, 251, 255, 257, 259, 261, 263, 267, 271, 279, 281, 285, 293, 295, 297, 301, 303, 305, 307, 309, 319, 323, 325, 337, 339, 343, 345, 349, 371, 375, or fragments thereof, and

wherein the recombinant virus is selected from Ad26, MVA, or GAd20,

in the manufacture of a medicament for the treatment, prevention or reduction of a risk of onset or delay of the onset of ovarian cancer in a subject in need thereof, wherein the composition is to be administered to the subject,

and wherein the administration comprises one or more administrations of the composition.

- 28) The ~~method of any one of claims 24-27~~ use of claims 26 or 27, wherein the subject expresses or is suspected to express one or more polypeptides of claim 1.
- 29) The ~~method~~ use of claim 28, wherein the one or more polypeptides of claim 1 is present at a frequency of at least about 1% or more, about 2% or more, about 3% or more, about 4% or more, about 5% or more, about 6% or more, about 7% or more, about 8% or more, about 9% or more, about 10% or more, about 11% or more, about 12% or more, about 13% or more, about 14% or more, about 15% or more, about 16% or more, about 17% or more, about 18% or more, about 19% or more, about 20% or more, about 21% or more, about 22% or more, about 23% or more, about 24% or more, about 25% or more, about 26% or more, about 27% or more, about 28% or more, about 29% or more, about 30% or more, about 35% or more, about 40% or more, about 45% or more, about 50% or more, about 55% or more, about 60% or more, about 65% or more or about 70% or more in a population of subjects having the ovarian cancer.
- 30) The ~~method~~ use of claim 26 or 27, wherein the ovarian cancer is a relapsed ovarian cancer, a refractory ovarian cancer, a metastatic ovarian cancer or a platinum-resistant ovarian cancer, or any combination thereof.
- 31) The ~~method~~ use of claims 28 or 29, wherein the subject is treatment naïve.
- 32) The ~~method~~ use of claims 28 or 29 wherein the subject has received surgery.
- 33) The ~~method~~ use of claims 28 or 29 wherein the subject has an elevated level of cancer antigen 125 (CA 125).
- 34) The ~~method~~ use of any one of claims 27-33, further comprising administering an additional cancer therapeutic agent to the subject.
- 35) The ~~method~~ use of claim 34, wherein the additional cancer therapeutic agent is a surgery, a chemotherapy, radiation, a checkpoint inhibitor, a targeted therapy, or any combination thereof.
- 36) The ~~method~~ use of claim 35, wherein the additional cancer therapeutic agent is a CTLA-4 antibody, a CTLA4 ligand, a PD-1 axis inhibitor, a PD-L1 axis inhibitor, a TLR agonist, a CD40 agonist, an OX40 agonist, hydroxyurea, ruxolitinib, fedratinib, a 41BB agonist, aa

CD28 agonist, a STING antagonist, a RIG-1 antagonist, TCR-T therapy, CAR-T therapy, FLT3 ligand, aluminum sulfate, BTK inhibitor, CD38 antibody, CDK inhibitor, CD33 antibody, CD37 antibody, CD25 antibody, GM-CSF inhibitor, IL-2, IL-15, IL-7, CD3 redirection molecules, pomalimib, IFN γ , IFN α , TNF α , VEGF antibody, CD70 antibody, CD27 antibody, BCMA antibody or GPRC5D antibody, or any combination thereof.

- 37) The ~~method~~use of claim 35, wherein the checkpoint inhibitor is ipilimumab, cetrelimab, pembrolizumab, nivolumab, sintilimab, cemiplimab, toripalimab, camrelizumab, tislelizumab, dostrealimab, spartalizumab, prolgolimab, balstilimab, budigalimab, sasanlimab, avelumab, atezolizumab, durvalumab, envafolimab, or iodapolimab, or any combination thereof.