

What is claimed is:

1. An arenavirus particle, wherein
 - a. the arenavirus particle comprises an arenavirus genome comprising a nucleotide sequence encoding an antigenic fragment of mutant KRAS, wherein the antigenic fragment comprises the mutation in KRAS; and
 - b. at least one arenavirus open reading frame (“ORF”) of the arenavirus genome is either (i) functionally inactivated or deleted; or (ii) located in a position other than the wild-type position of said at least one arenavirus ORF; or (iii) sequestered into two or more functional fragments and a fragment of the at least one arenavirus ORF is located in a position other than the wild-type position of said at least one arenavirus ORF.
2. The arenavirus particle of claim 1, wherein:
 - (i) the mutation in KRAS is at amino acid position G12, G13, A18, A59, Q61, K117, A146, or D119 of KRAS;
 - (ii) the mutation in KRAS is A18D, A59E, A59G, A59P, A59T, A59S, A59V, A146P, A146S, A146T, A146V, D119N, G12A, G12C, G12D, G12F, G12L, G12R, G12S, G12V, G13A, G13C, G13D, G13E, G13R, G13S, G13V, K117N, Q61E, Q61H, Q61K, Q61L, Q61P, Q61R or a combination thereof;
 - (iii) the mutation in KRAS is G12A, G12C, G12D, G12R, G12S, G12V, G13D, Q61H, Q61R, A146T or a combination thereof;
 - (iv) the mutation in KRAS is one, more, or all of G13D, G12V, G12C, G12D, and G12R, optionally wherein the mutations in KRAS are all of G13D, G12V, G12C, G12D, and G12R in any possible order; and/or
 - (v) the nucleotide sequence encodes from N- to C-terminus fragments of mutant KRAS comprising the mutations G13D, G12V, G12C, G12D, and G12R, respectively.
3. The arenavirus particle of claim 1, wherein the arenavirus genome comprises:
 - (i) a nucleotide sequence that is at least 80%, 81%, 82%, 83%, 84%, 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the sequence of SEQ ID NO:20; or
 - (ii) a nucleotide sequence encoding an expression product whose amino acid sequence is at

least 80%, 81%, 82%, 83%, 84%, 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the amino acid sequence of SEQ ID NO:19.

4. The arenavirus particle of any one of claims 1-3, wherein the fragment of mutant KRAS is 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, or 30 amino acids long; and/or the fragment of mutant KRAS is 18 amino acids long.

5. The arenavirus particle of any one of claims 1-4, wherein

(i) the region flanking the mutation at the N-terminus of the antigenic fragment is 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, or 20 amino acids long;

(ii) the region flanking the mutation at the N-terminus of the antigenic fragment is 8 or 9 amino acids long;

(iii) the region flanking the mutation at the C-terminus of the antigenic fragment is 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, or 20 amino acids long; and/or

(iv) the region flanking the mutation at the C-terminus of the antigenic fragment is 8 or 9 amino acids long.

6. The arenavirus particle of any one of claims 1-5, wherein

(i) the nucleotide sequence encodes two, three, four, five, six, seven, eight, nine, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, or 20 antigenic fragments of mutant KRAS, and wherein each antigenic fragment comprises the mutation of one of the mutant KRAS proteins; or

(ii) the nucleotide sequence encodes five antigenic fragments of a mutant KRAS, and wherein each antigenic fragment comprises the mutation of one of the mutant KRAS proteins; optionally wherein the five antigenic fragments of a mutant KRAS comprise the mutations G13D, G12V, G12C, G12D, and G12R.

7. The arenavirus particle of claim 6, wherein

(i) the antigenic fragments comprise the same or different mutations of mutant KRAS proteins;

(ii) the antigenic fragments are fused to each other via the same or different linkers, optionally wherein the linker is AAY linker (AAY), AAA linker (AAA), GS linker (GGSGGGGSGG) (SEQ ID NO:42), or variants of AAY, AAA, and GS linker sequences

optimized via in silico prediction; and/or

(iii) the antigenic fragments are fused directly to each other without intervening sequences.

8. The arenavirus particle of any one of claims 1-7, wherein the nucleotide sequence is engineered to reduce or remove any CpG and TpA islands, optionally wherein the removal of the CpG and TpA islands comprises three cycles:

(i) CpG is removed in a first cycle;

(ii) TpA is removed in a second cycle; and

(iii) CpG is removed in a third cycle to remove newly introduced CpG in the second cycle.

9. The arenavirus particle of any one of claims 1-8, wherein the arenavirus genome comprises:

(a) (i) a first S-Segment comprising the nucleotide sequence encoding the antigenic fragment(s) under control of an arenavirus genomic 5' UTR and an ORF encoding the arenaviral nucleoprotein ("NP") under control of an arenavirus genomic 3' UTR; and

(ii) a second S-Segment comprising the nucleotide sequence encoding the antigenic fragment(s) under control of an arenavirus genomic 5' UTR and an ORF encoding the arenaviral glycoprotein ("GP") under control of an arenavirus genomic 3' UTR; and

(iii) an L-Segment, or

(b) (i) a first S-Segment comprising the nucleotide sequence of SEQ ID NO:20 under control of an arenavirus genomic 5' UTR and an ORF encoding the arenaviral nucleoprotein ("NP") under control of an arenavirus genomic 3' UTR; and

(ii) a second S-Segment comprising the nucleotide sequence of SEQ ID NO:20 under control of an arenavirus genomic 5' UTR and an ORF encoding the arenaviral glycoprotein ("GP") under control of an arenavirus genomic 3' UTR; and

(iii) an L-Segment, or

(c) (i) a first S-Segment comprising the nucleotide sequence of SEQ ID NO:21; and

(ii) a second S-Segment comprising the nucleotide sequence of SEQ ID NO:22; and

(iii) an L-Segment, or

(d) (i) a first S-Segment comprising the nucleotide sequence of SEQ ID NO:23; and

(ii) a second S-Segment comprising the nucleotide sequence of SEQ ID NO:24; and

(iii) an L-Segment, or

(e) (i) a first S-Segment comprising an ORF encoding the arenavirus GP1 and GP2 subunits fused to a heterologous signal peptide under control of an arenavirus genomic 5' UTR and an ORF encoding a fusion of arenavirus GP signal peptide and a nucleotide sequence encoding the antigenic fragment(s) under control of an arenavirus genomic 3' UTR; and

(ii) a second S-Segment comprising the nucleotide sequence encoding the antigenic fragment(s) under control of an arenavirus genomic 5' UTR and an ORF encoding the arenaviral nucleoprotein ("NP") under control of an arenavirus genomic 3' UTR; and

(iii) an L-Segment.

10. The arenavirus particle of claim 9, wherein

(i) the nucleotide sequence encoding the antigenic fragment(s) on the first S-Segment is different from the nucleotide sequence encoding the antigenic fragment(s) on the second S-Segment;

(ii) the nucleotide sequence encoding the antigenic fragment(s) on the first S-Segment is the same as the nucleotide sequence encoding the antigenic fragment(s) on the second S-Segment;

(iii) the antigenic fragment(s) encoded on the first S-Segment is / are different from the antigenic fragment(s) encoded on the second S-Segment; or

(iv) the antigenic fragment(s) encoded on the first S-Segment is / are the same as the antigenic fragment(s) encoded on the second S-Segment, optionally wherein the antigenic fragments encoded on the first S-Segment are the same as the antigenic fragments encoded on the second S-Segment but are fused to each other in a different order from the order in which the antigenic fragments encoded on the second S-Segment are fused to each other.

11. The arenavirus particle of any one of claims 1-10, wherein

(i) the arenavirus genome further comprises a nucleotide sequence encoding an antigenic fragment of mutant AKT1, mutant BRAF, mutant HER2, mutant MEK1, mutant MET, mutant NRAS, mutant PIK3CA, mutant RET, mutant APC, mutant U2AF1, mutant EGFR, mutant FBXW7, mutant SMAD4, mutant GNAS, mutant ERBB2, mutant ERBB3, mutant CDKN2A, mutant TP53 and / or mutant CTNNB1, and wherein the antigenic fragment comprises the respective mutation; and/or

(ii) the arenavirus genome further comprises a nucleotide sequence encoding an antigenic fragment of mutant PI3KCA, wherein the antigenic fragment comprises the E545K, H1047R and / or E542K mutation; and/or

(iii) the arenavirus genome further comprises a nucleotide sequence encoding an antigenic fragment of mutant BRAF, wherein the antigenic fragment comprises the V600E mutation; and/or

(iv) the arenavirus genome further comprises a nucleotide sequence encoding an antigenic fragment of mutant U2AF1, wherein the antigenic fragment comprises the S34F mutation; and/or

(v) the arenavirus genome further comprises a nucleotide sequence encoding an antigenic fragment of mutant TP53, wherein the antigenic fragment comprises the G245S, Y220C, R248Q, R282W, H179R, V157F, R273C, R213L, R273H, R273L, R175H, R158L, R196P, R248W and / or C277F mutation; and/or

(vi) the arenavirus genome further comprises a nucleotide sequence encoding an antigenic fragment of BIRC family, CEACAM family, CTA family, EPH family, ERBB family, FOLR family, GAST family, GUCY2 family, IDO family, IL13RA family, KDR family, KLK family, MAGE family, MUC family, PEMT family, SDC family, SLAMF family, TERT family, TLR family, TPTE family, TYR family, WT family and / or XBP family.

12. The arenavirus particle of any one of claims 1-11, wherein the arenavirus particle is derived from lymphocytic choriomeningitis virus (LCMV) or Pichinde virus.

13. A pharmaceutical composition comprising the arenavirus particle of any one of claims 1-12.

14. A set of one or more nucleic acids encoding the genome of the arenavirus particle of any one of claims 1-12.

15. A host cell comprising the set of one or more nucleic acids of claim 14.

16. A method of making the arenavirus particle of any one of claims 1 to 12, wherein the method comprises culturing the host cell of claim 15, and harvesting the arenavirus particle.

17. Use of the arenavirus particle of any one of claims 1-12 in the manufacture of a medicament for treating a neoplastic disease in a subject in need thereof.

18. The use of claim 17, wherein the neoplastic disease is pancreatic cancer, colorectal cancer, lung adenocarcinoma, lung squamous cell carcinoma, or non-small cell lung cancer (NSCLC).

19. The use of claim 17, wherein

(i) the arenavirus genome comprises a nucleotide sequence encoding antigenic fragments of mutant KRAS, wherein the antigenic fragments comprise the mutation, wherein the mutation in KRAS is G12D, G12V, G12R, Q61H, Q61R, G12C, G12S, and / or G12A and wherein the neoplastic disease is pancreatic cancer;

(ii) the arenavirus genome comprises a nucleotide sequence encoding antigenic fragments of mutant KRAS, wherein the antigenic fragments comprise the mutation, and wherein the mutation in KRAS is G13D, G12V, G12C, G12D, and G12R and wherein the neoplastic disease is pancreatic cancer, colorectal cancer or lung adenocarcinoma;

(iii) the arenavirus genome further comprises a nucleotide sequence encoding an antigenic fragment of mutant TP53, wherein the antigenic fragment comprises the mutation, wherein the mutation in KRAS is G12D, G12R, G12V, Q61H and / or Q61R, wherein the mutation in TP53 is R175H, R248W, G245S, R282W, R248Q and / or R273C, and wherein the neoplastic disease is pancreatic cancer;

(iv) the arenavirus genome further comprises a nucleotide sequence encoding an antigenic fragment of mutant TP53, and/or mutant U2AF1, wherein the antigenic fragment comprises the mutation, wherein the mutation in KRAS is G12D, G12V, G12R, Q61H and / or Q61R, wherein the mutation in TP53 is R175H, R248W, G245S, R282W, R248Q and / or R273C, wherein the mutation in U2AF1 is S34F, and wherein the neoplastic disease is pancreatic cancer;

(v) the arenavirus genome further comprises a nucleotide sequence encoding an antigenic fragment of mutant BRAF, mutant TP53, mutant FBXW7 and / or mutant PIK3CA, wherein the antigenic fragment comprises the mutation, wherein the mutation in KRAS is G12D, G12V, G13D, A146T and / or G12C, wherein the mutation in BRAF is V600E, wherein the mutation in TP53 is R175H, R273H and / or R248W, wherein the mutation in FBXW7 is R465H, wherein the mutation in PIK3CA is E545K and / or H1047R, and wherein the neoplastic disease is

colorectal cancer;

(vi) wherein the arenavirus genome further comprises a nucleotide sequence encoding an antigenic fragment of mutant BRAF, mutant TP53, mutant FBXW7, and / or mutant PIK3CA, wherein the antigenic fragment comprises the mutation, wherein the mutation in KRAS is G12D, G12V, G13D, A146T and / or G12C, wherein the mutation in BRAF is V600E, wherein the mutation in TP53 is R175H, R273H and / or R248W, wherein the mutation in FBXW7 is R465H, wherein the mutation in PIK3CA is E545K and / or H1047R, and wherein the neoplastic disease is lung adenocarcinoma;

(vii) the arenavirus genome further comprises a nucleotide sequence encoding an antigenic fragment of mutant BRAF, mutant PIK3CA, mutant EGFR, mutant TP53, and / or mutant U2AF1, wherein the antigenic fragment comprises the mutation, wherein the mutation in KRAS is G12C, G12D, G12R, G13D and / or G12V, wherein the mutation in BRAF is V600E, wherein the mutation in PIK3CA is E545K, wherein the mutation in EGFR is L858R, wherein the mutation in TP53 is R175H, R273H and / or R248W, wherein the mutation in U2AF1 is S34F, and wherein the neoplastic disease is pancreatic cancer, colorectal cancer or lung adenocarcinoma;

(viii) the arenavirus genome comprises a nucleotide sequence encoding antigenic fragments of mutant KRAS, wherein the antigenic fragment comprises the mutation, and wherein the mutation in KRAS is G12D, G12V, G12C, G12R, G13D, A146T, G12S, Q61H, G12A, and / or Q61R and wherein the neoplastic disease is pancreatic cancer, colorectal cancer or lung adenocarcinoma;

(ix) the arenavirus genome further comprises a nucleotide sequence encoding an antigenic fragment of mutant TP53, mutant U2AF1, mutant PIK3CA, mutant EGFR and / or mutant BRAF, wherein the antigenic fragment comprises the mutation, wherein the mutation in KRAS is G12C, G12V, G12D, and / or G12S, wherein the mutation in TP53 is R175H, wherein the mutation in U2AF1 is S34F, wherein the mutation in EGFR is L858R, L861Q and / or E746_A750del, wherein the mutation in PIK3CA is E545K and / or E542K, wherein the mutation in BRAF is V600E, and wherein the neoplastic disease is lung adenocarcinoma; or

(x) the arenavirus genome further comprises a nucleotide sequence encoding an antigenic fragment of mutant AKT1, mutant BRAF, mutant HER2, mutant MEK1, mutant MET, mutant

NRAS, mutant PIK3CA and / or mutant RET, wherein the antigenic fragment comprises the mutation, and wherein the neoplastic disease is non-small cell lung cancer (NSCLC).

20. The use of any one of claims 17-19, wherein the medicament is to be administered with a second arenavirus particle, wherein

(i) the second arenavirus particle encodes an antigenic fragment of mutant KRAS, wherein the antigenic fragment comprises the mutation, and wherein the neoplastic disease is pancreatic cancer or colorectal cancer;

(ii) the second arenavirus particle encodes an antigenic fragment of mutant KRAS, wherein the antigenic fragments comprise the mutation, wherein the mutation in KRAS is G12D, G12V, G12R, Q61H, Q61R, G12C, G12S and / or G12A and wherein the neoplastic disease is pancreatic cancer;

(iii) the second arenavirus particle encodes an antigenic fragment of mutant KRAS and / or mutant TP53, wherein the antigenic fragment comprises the mutation, wherein the mutation in KRAS is G12D, G12R, G12V Q61H and / or Q61R, wherein the mutation in TP53 is R175H, R248W, G245S, R282W, R248Q and / or R273C, and wherein the neoplastic disease is pancreatic cancer;

(iv) the second arenavirus particle encodes an antigenic fragment of mutant KRAS, mutant TP53, mutant U2AF1, wherein the antigenic fragment comprises the mutation, wherein the mutation in KRAS is G12D, G12V, G12R, Q61H and / or Q61R , wherein the mutation in TP53 is R175H, R248W, G245S, R282W, R248Q and / or R273C , wherein the mutation in U2AF1 is S34F, and wherein the neoplastic disease is pancreatic cancer;

(v) the second arenavirus particle encodes an antigenic fragment of mutant KRAS, mutant BRAF, mutant TP53, mutant FBXW7, mutant PIK3CA, wherein the antigenic fragment comprises the mutation, wherein the mutation in KRAS is G12D, G12V, G13D, A146T and /or G12C, wherein the mutation in BRAF is V600E, wherein the mutation in TP53 is R175H, R273H and / or R248W, wherein the mutation in FBXW7 is R465H and / or R465C, wherein the mutation in PIK3CA is E545K and / or H1047R, and wherein the neoplastic disease is colorectal cancer;

(vi) the second arenavirus particle encodes an antigenic fragment of mutant KRAS, mutant BRAF, mutant TP53, mutant FBXW7 and / or mutant PIK3CA, wherein the antigenic fragment

comprises the mutation, wherein the mutation in KRAS is G12D, G12V, G13D, A146T and / or G12C, wherein the mutation in BRAF is V600E, wherein the mutation in TP53 is R175H, R273H and / or R248W, wherein the mutation in FBXW7 is R465H, wherein the mutation in PIK3CA is E545K and / or H1047R, and wherein the neoplastic disease is lung adenocarcinoma;

(vii) the second arenavirus particle encodes an antigenic fragment of mutant KRAS, mutant BRAF, mutant PIK3CA, mutant EGFR, mutant TP53, and / or mutant U2AF1, wherein the antigenic fragment comprises the mutation, wherein the mutation in KRAS is G12C, G12D, G12R, G13D and / or G12V, wherein the mutation in BRAF is V600E, wherein the mutation in PIK3CA is E545K, wherein the mutation in EGFR is L858R, wherein the mutation in TP53 is R175H, R273H and / or R248W, wherein the mutation in U2AF1 is S34F, and wherein the neoplastic disease is pancreatic cancer, colorectal cancer or lung adenocarcinoma;

(viii) the second arenavirus particle encodes an antigenic fragment of mutant KRAS, wherein the antigenic fragment comprises the mutation, and wherein the mutation in KRAS is G12D, G12V, G12C, G12R, G13D, A146T, G12S, Q61H, G12A, and / or Q61R and wherein the neoplastic disease is pancreatic cancer, colorectal cancer or lung adenocarcinoma;

(ix) the second arenavirus particle encodes an antigenic fragment of mutant KRAS, wherein the antigenic fragment comprises the mutation, and wherein the mutation in KRAS is G13D, G12V, G12C, G12D, and G12R and wherein the neoplastic disease is pancreatic cancer, colorectal cancer or lung adenocarcinoma;

(x) the second arenavirus particle encodes an antigenic fragment of mutant KRAS, mutant TP53, mutant U2AF1, mutant PIK3CA, mutant EGFR and / or mutant BRAF, wherein the antigenic fragment comprises the mutation, wherein the mutation in KRAS is G12C, G12V, G12D, and / or G12S, wherein the mutation in TP53 is R175H, wherein the mutation in U2AF1 is S34F, wherein the mutation in EGFR is L858R, L861Q and / or E746_A750del, wherein the mutation in PIK3CA is E545K and / or E542K, wherein the mutation in BRAF is V600E, and wherein the neoplastic disease is lung adenocarcinoma;

(xi) the second arenavirus particle encodes an antigenic fragment of mutant TP53, and wherein the antigenic fragment comprises the mutation;

(xii) the second arenavirus particle encodes an antigenic fragment of mutant AKT1, mutant BRAF, mutant HER2, mutant MEK1, mutant MET, mutant NRAS, mutant PIK3CA, mutant RET, mutant APC, mutant U2AF1, mutant EGFR, mutant FBXW7, mutant SMAD4, mutant

GNAS, mutant ERBB2, mutant ERBB3, mutant CDKN2A, mutant TP53 and / or mutant CTNNB1, and wherein the antigenic fragment comprises the respective mutation;

(xiii) the second arenavirus particle encodes an antigenic fragment of mutant PI3KCA, wherein the antigenic fragment comprises the mutation, and wherein the mutation in PI3KCA is E545K, H1047R and / or E542K;

(xiv) the second arenavirus particle encodes an antigenic fragment of mutant BRAF, wherein the antigenic fragment comprises the mutation, and wherein the mutation in BRAF is V600E;

(xv) the second arenavirus particle encodes an antigenic fragment of mutant U2AF1, wherein the antigenic fragment comprises the mutation, and wherein the mutation in U2AF1 is S34F;

(xvi) the second arenavirus particle encodes an antigenic fragment of mutant TP53, wherein the antigenic fragment comprises the mutation, and wherein the mutation in TP53 is G245S, Y220C, R248Q, R282W, H179R, V157F, R273C, R213L, R273H, R273L, R175H, R158L, R196P, R248W and / or C277F;

(xvii) the second arenavirus particle encodes an antigenic fragment of BIRC family, CEACAM family, CTA family, EPH family, ERBB family, FOLR family, GAST family, GUCY2 family, IDO family, IL13RA family, KDR family, KLK family, MAGE family, MUC family, PEMT family, SDC family, SLAMF family, TERT family, TLR family, TPTE family, TYR family, WT family and / or XBP family;

(xviii) the second arenavirus particle comprises an arenavirus genome comprising the nucleotide sequences of SEQ ID NOs:21 and 22; or

(xix) the second arenavirus particle comprises an arenavirus genome comprising the nucleotide sequences of SEQ ID NOs:23 and 24.

21. The use of any one of claims 17-20, wherein

(i) the neoplastic disease is a solid tumor, and the administration of the medicament results in an increase of the concentration of T cells within the solid tumor; and/or

(ii) the neoplastic disease is a solid tumor, and wherein the arenavirus particle is to be administered via intratumoral injection.

22. The use of any one of claims 17-21, wherein the neoplastic disease is acute lymphoblastic leukemia; acute lymphoblastic lymphoma; acute lymphocytic leukaemia; acute myelogenous

leukemia; acute myeloid leukemia (adult / childhood); adrenocortical carcinoma; AIDS-related cancers; AIDS-related lymphoma; anal cancer; appendix cancer; astrocytomas; atypical teratoid/rhabdoid tumor; basal-cell carcinoma; bile duct cancer, extrahepatic (cholangiocarcinoma); bladder cancer; bone osteosarcoma/malignant fibrous histiocytoma; brain cancer (adult / childhood); brain tumor, cerebellar astrocytoma (adult / childhood); brain tumor, cerebral astrocytoma/malignant glioma brain tumor; brain tumor, ependymoma; brain tumor, medulloblastoma; brain tumor, supratentorial primitive neuroectodermal tumors; brain tumor, visual pathway and hypothalamic glioma; brainstem glioma; breast cancer; bronchial adenomas/carcinoids; bronchial tumor; Burkitt lymphoma; cancer of childhood; carcinoid gastrointestinal tumor; carcinoid tumor; carcinoma of adult, unknown primary site; carcinoma of unknown primary; central nervous system embryonal tumor; central nervous system lymphoma, primary; cervical cancer; childhood adrenocortical carcinoma; childhood cancers; childhood cerebral astrocytoma; chordoma, childhood; chronic lymphocytic leukemia; chronic myelogenous leukemia; chronic myeloid leukemia; chronic myeloproliferative disorders; colon cancer; colorectal cancer; craniopharyngioma; cutaneous T-cell lymphoma; desmoplastic small round cell tumor; emphysema; endometrial cancer; ependymoblastoma; ependymoma; esophageal cancer; Ewing's sarcoma in the Ewing family of tumors; extracranial germ cell tumor; extragonadal germ cell tumor; extrahepatic bile duct cancer; gallbladder cancer; gastric (stomach) cancer; gastric carcinoid; gastrointestinal carcinoid tumor; gastrointestinal stromal tumor; germ cell tumor: extracranial, extragonadal, or ovarian gestational trophoblastic tumor; gestational trophoblastic tumor, unknown primary site; glioma; glioma of the brain stem; glioma, childhood visual pathway and hypothalamic; hairy cell leukemia; head and neck cancer; heart cancer; hepatocellular (liver) cancer; Hodgkin lymphoma; hypopharyngeal cancer; hypothalamic and visual pathway glioma; intraocular melanoma; islet cell carcinoma (endocrine pancreas); Kaposi Sarcoma; kidney cancer (renal cell cancer); Langerhans cell histiocytosis; laryngeal cancer; lip and oral cavity cancer; liposarcoma; liver cancer (primary); lung cancer, non-small cell; lung cancer, small cell; lymphoma, primary central nervous system; macroglobulinemia, Waldenström; male breast cancer; malignant fibrous histiocytoma of bone/osteosarcoma; medulloblastoma; medulloepithelioma; melanoma; melanoma, intraocular (eye); Merkel cell cancer; Merkel cell skin carcinoma; mesothelioma; mesothelioma, adult malignant; metastatic squamous neck cancer with occult primary; mouth cancer; multiple endocrine neoplasia

syndrome; multiple myeloma/plasma cell neoplasm; mycosis fungoides, myelodysplastic syndromes; myelodysplastic/myeloproliferative diseases; myelogenous leukemia, chronic; myeloid leukemia, adult acute; myeloid leukemia, childhood acute; myeloma, multiple (cancer of the bone-marrow); myeloproliferative disorders, chronic; nasal cavity and paranasal sinus cancer; nasopharyngeal carcinoma; neuroblastoma, non-small cell lung cancer; non-Hodgkin lymphoma; oligodendroglioma; oral cancer; oral cavity cancer; oropharyngeal cancer; osteosarcoma/malignant fibrous histiocytoma of bone; ovarian cancer; ovarian epithelial cancer (surface epithelial-stromal tumor); ovarian germ cell tumor; ovarian low malignant potential tumor; pancreatic cancer; pancreatic cancer, islet cell; papillomatosis; paranasal sinus and nasal cavity cancer; parathyroid cancer; penile cancer; pharyngeal cancer; pheochromocytoma; pineal astrocytoma; pineal germinoma; pineal parenchymal tumors of intermediate differentiation; pineoblastoma and supratentorial primitive neuroectodermal tumors; pituitary tumor; pituitary adenoma; plasma cell neoplasia/multiple myeloma; pleuropulmonary blastoma; primary central nervous system lymphoma; prostate cancer; rectal cancer; renal cell carcinoma (kidney cancer); renal pelvis and ureter, transitional cell cancer; respiratory tract carcinoma involving the NUT gene on chromosome 15; retinoblastoma; rhabdomyosarcoma, childhood; salivary gland cancer; sarcoma, Ewing family of tumors; Sézary syndrome; skin cancer (melanoma); skin cancer (non-melanoma); small cell lung cancer; small intestine cancer soft tissue sarcoma; soft tissue sarcoma; spinal cord tumor; squamous cell carcinoma; squamous neck cancer with occult primary, metastatic; stomach (gastric) cancer; supratentorial primitive neuroectodermal tumor; T-cell lymphoma, cutaneous (Mycosis Fungoides and Sézary syndrome); testicular cancer; throat cancer; thymoma; thymoma and thymic carcinoma; thyroid cancer; childhood thyroid cancer; transitional cell cancer of the renal pelvis and ureter; urethral cancer; uterine cancer, endometrial; uterine sarcoma; vaginal cancer; vulvar cancer; and Wilms tumor.