What is claimed is:

1. A peptide compound comprising of (d-B pa)(d-Ser)(d-Trp)(d-Ser)(d-Phe-2,3,4,5,6-F)(d-Cha) (SEQ ID NO:1) for use in increasing nucleic acid damage of a hyperproliferating cell or for use in the prophylaxis or treatment of a cell proliferative disorder in a mammal;

wherein the mammal has a white blood cell count of less than about 11,000 white blood cells per microliter (wbc/μl) of blood.

2. The peptide compound of claim **1**, wherein the mammal has a white blood cell count between about 4,000 to about 11,000 white blood cells per microliter (wbc/μl) of blood.

3. The peptide compound of claim **1**, wherein the mammal has a white blood cell count of less than about 10,000 white blood cells per microliter (wbc/μl) of blood.

4. The peptide compound of claim **1**, wherein the mammal has a white blood cell count of less than about 9,000 white blood cells per microliter (wbc/μl) of blood.

5. The peptide compound of claim **1**, wherein the mammal has a white blood cell count between about 4,000 to about 9,000 white blood cells per microliter (wbc/μl) of blood.

6. The peptide compound of claim **1**, wherein the mammal has a white blood cell count of less than about 8,000 white blood cells per microliter (wbc/μl) of blood.

7. The peptide compound of claim **1**, wherein the mammal has a white blood cell count of less than about 7,000 white blood cells per microliter (wbc/μl) of blood.

8. The peptide compound of claim **1**, wherein the peptide compound comprises a pharmaceutical formulation.

9. The peptide compound of claim **1**, wherein the pharmaceutically acceptable salt thereof is selected from acetate, sulfonate, sulfate, pyrosulfate, bisulfate, sulfite, bisulfite, phosphate, monohydrogen-phosphate, dihydrogenphosphate, metaphosphate, pyrophosphate, chloride, bromide, iodide, propionate, decanoate, caprylate, acrylate, formate, isobutyrate, caproate, heptanoate, propiolate, oxalate, malonate, succinate, suberate, sebacate, fumarate, maleate, butyne-1,4-dioate, hexyne-1,6-dioate, benzoate, chlorobenzoate, methyl benzoates, dinitrobenzoates, hydroxybenzoates, methoxybenzoates, phthalates, xylenesulfonate, phenylacetate, phenylpropionate, phenylbutyrate, citrate, lactate, -hydroxybutyrate, glycolate, tartrate, methane-sulfonate, propanesulfonate, naphthalene-1-sulfonate, naphthalene-2-sulfonate, and mandelate.

10. The peptide compound of claim **1**, wherein the peptide compound has a length from 6 to 10, 10 to 15, 15 to 20, 20 to 25, 25 to 30, 30 to 40, 40 to 50, 50 to 75, 75 to 100, 100 to 150, 150 to 200, or 200 to 300 amino acid residues.

11. The peptide compound of claim **1**, wherein the peptide compound further comprises a cell penetrating molecule attached or conjugated thereto.

12. The peptide compound of claim **11**, wherein the cell penetrating molecule is joined to the peptide compound by a covalent bond, or a peptide or a non-peptide linker.

13. The peptide compound of claim **11**, wherein the cell penetrating peptide comprises an alternating pattern of polar/charged amino acids and non-polar, hydrophobic amino acids.

14. The peptide compound of claim **11**, wherein the cell penetrating peptide comprises a polycationic or amphipathic alpha-helix structure.

15. The peptide compound of claim **1** or **11**, wherein the cell penetrating peptide comprises L- or D-isomer amino acids, or a mixture of L- and D-isomer amino acids.

16. The peptide compound of claim **11**, wherein the cell penetrating peptide comprises a poly-Arginine (Arg) sequence.

17. The peptide compound of claim **11**, wherein the cell penetrating peptide comprises or consists of (d-Arg)(d-Arg)(d-Arg)(d-Gln)(d-Arg)(d-Arg).

18. The peptide compound of claim **1**, further comprising administering a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment.

19. The peptide compound of claim **18**, wherein the nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or anti-proliferative treatment comprises surgical resection, radiotherapy, ionizing or chemical radiation therapy, chemotherapy, immunotherapy, local or regional thermal (hyperthermia) therapy, vaccination, an alkylating agent, an anti-metabolite, a plant extract, a plant alkaloid, nitrosourea, a hormone, or a nucleoside or nucleotide analogue.

20. The peptide compound of claim **1**, wherein the peptide compound is administered prior to, with or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

21. The peptide compound of claim **1**, wherein the peptide compound is administered less than 48 hours prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

22. The peptide compound of claim **1**, wherein the peptide compound is administered less than 24 hours prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

23. The peptide compound of claim **1**, wherein the peptide compound is administered less than 12 hours prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

24. The peptide compound of claim 1, wherein the peptide compound is administered less than 6 hours prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

25. The peptide compound of claim 1, wherein the peptide compound is administered less than 4 hours prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

26. The peptide compound of claim 1, wherein the peptide compound is administered less than 2 hours prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

27. The peptide compound of claim 1, wherein the peptide compound is administered less than 1 hour prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

28. The peptide compound of any one of claims 18 to 27, wherein the nucleic acid damaging agent or anti-proliferative agent comprises a drug.

29. The peptide compound of any one of claims 18 to 27, wherein the nucleic acid damaging agent or anti-proliferative agent comprises a platinum containing drug.

30. The peptide compound of any one of claims 18 to 27, wherein the nucleic acid damaging agent or anti-proliferative agent comprises cis-platin, carboplatin, nedaplatin, mitaplatin, satraplatin, picoplatin, triplatin, miriplatin, or oxaliplatin.

31. The peptide compound of claim 1, and a platinum containing drug, cis-platin, carboplatin, oxaliplatin, pemetrexed, gemcitabine, 5-fiuorouracil (5-FU), rebeccamycin, adriamycin (ADR), bleomycin (Bleo), pepleomycin, cisplatin, cisplatinum, or cis-diamminedichloroplatinum(II) (CDDP), oxaliplatin, or camptotecin (CPT), cyclophosphamide, azathioprine, cyclosporin A, prednisolone, melphalan, chlorambucil, mechlorethamine, busulphan, methotrexate, 6-mercaptopurine, thioguanine, 5-fluorouracil, cytosine arabinoside, AZT, 5-azacytidine (5-AZC) or a 5-azacytidine related compound, actinomycin D, mithramycin, mitomycin C, carmustine, lomustine, semustine, streptozotocin, hydroxyurea, cisplatin, mitotane, procarbazine, dacarbazine, a taxane, vinblastine, vincristine, doxorubicin, dibromomannitol, radiation or a radioisotope, to be used in conjunction with the peptide compound of claim 1.

32. The peptide compound and the platinum containing drug, cis-platin, carboplatin, oxaliplatin, pemetrexed, gemcitabine, 5-fiuorouracil (5-FU), rebeccamycin, adriamycin (ADR), bleomycin (Bleo), pepleomycin, cisplatin, cisplatinum, or cis-diamminedichloroplatinum(II) (CDDP), oxaliplatin, or camptotecin (CPT), cyclophosphamide, azathioprine, cyclosporin A, prednisolone, melphalan, chlorambucil, mechlorethamine, busulphan, methotrexate, 6-mercaptopurine, thioguanine, 5-fluorouracil, cytosine arabinoside, AZT, 5-azacytidine (5-AZC) or a 5-azacytidine related compound, actinomycin D, mithramycin, mitomycin C, carmustine, lomustine, semustine, streptozotocin, hydroxyurea, cisplatin, mitotane, procarbazine, dacarbazine, a taxane, vinblastine, vincristine, doxorubicin, dibromomannitol, radiation or a radioisotope of claim 31, wherein the radiation comprises UV radiation, IR radiation, Xray, or alpha-, beta- or gamma-radiation.

33. The peptide compound and the platinum containing drug, cis-platin, carboplatin, oxaliplatin, pemetrexed, gemcitabine, 5-fiuorouracil (5-FU), rebeccamycin, adriamycin (ADR), bleomycin (Bleo), pepleomycin, cisplatin, cisplatinum, or cis-diamminedichloroplatinum(II) (CDDP), oxaliplatin, or camptotecin (CPT), cyclophosphamide, azathioprine, cyclosporin A, prednisolone, melphalan, chlorambucil, mechlorethamine, busulphan, methotrexate, 6-mercaptopurine, thioguanine, 5-fluorouracil, cytosine arabinoside, AZT, 5-azacytidine (5-AZC) or a 5-azacytidine related compound, actinomycin D, mithramycin, mitomycin C, carmustine, lomustine, semustine, streptozotocin, hydroxyurea, cisplatin, mitotane, procarbazine, dacarbazine, a taxane, vinblastine, vincristine, doxorubicin, dibromomannitol, radiation or a radioisotope of claim **31**, wherein the radioisotope comprises I^{131}, I^{125},Sr^{89}, Sm^{153}, Y^{90}, or Lu^{177}.

34. The peptide compound of claim **1**, wherein the cell proliferative disorder comprises a tumor or cancer.

35. The peptide compound of claim **34**, wherein the cell proliferative disorder comprises a metastatic tumor or cancer.

36. The peptide compound of claim **34** or **35**, wherein the tumor or cancer comprises a lung tumor or cancer.

37. The peptide compound of claim **34** or **35**, wherein the lung tumor or cancer comprises a small cell or non-small cell lung cancer.

38. The peptide compound of claim **34** or **35**, wherein the lung tumor or cancer comprises an adenocarcinoma, squamous cell carcinoma or a large cell carcinoma.

39. The peptide compound of claim **34** or **35**, wherein the tumor or cancer comprises a carcinoma, sarcoma, lymphoma, leukemia, adenoma, adenocarcinoma, melanoma, glioma, glioblastoma, meningioma, neuroblastoma, retinoblastoma, astrocytoma, oligodendrocytoma, mesothelioma, reticuloendothelial, lymphatic or haematopoietic neoplasia, tumor, cancer or malignancy.

40. The peptide compound of claim **34** or **35**, wherein the sarcoma comprises a lymphosarcoma, liposarcoma, osteosarcoma, chondrosarcoma, leiomyosarcoma, rhabdomyosarcoma or fibrosarcoma.

41. The peptide compound of claim **39**, wherein the haematopoietic neoplasia, tumor, cancer or malignancy comprises a myeloma, lymphoma or leukemia.

42. The peptide compound of claim **34** or **35**, wherein the tumor or cancer comprises a lung, thyroid, head or neck, nasopharynx, throat, nose or sinuses, brain, spine, breast, adrenal gland, pituitary gland, thyroid, lymph, gastrointestinal (mouth, esophagus, stomach, duodenum, ileum, jejunum (small intestine), colon, rectum), genito-urinary tract (uterus, ovary, cervix, endometrial, bladder, testicle, penis, prostate), kidney, pancreas, liver, bone, bone marrow, lymph, blood, muscle, or skin neoplasia, tumor, or cancer.

43. The peptide compound of claim **34** or **35**, wherein the tumor or cancer comprises a breast cancer, prostate cancer, pancreas cancer, gastric cancer, pleural mesothelioma, colon

cancer, rectal cancer, large bowel cancer, small intestinal cancer, esophageal cancer, duodenal cancer, lingual cancer, pharyngeal cancer, salivary gland cancer, cerebral tumor, schwanoma, liver cancer, kidney cancer, bile duct cancer, endometrial cancer, cervical cancer, uterine body cancer, ovarian cancer, bladder cancer, urethral cancer, skin cancer, angioma, malignant lymphoma, malignant melanoma, thyroid cancer, parathyroid cancer, nasal cancer, paranasal cancer, auditory organ cancer, carcinoma of oral floor, laryngeal cancer, parotid cancer, submandibular cancer, bone tumor, angiofibroma, retinal sarcoma, penile cancer, testicular tumor, pediatric solid cancer, Kaposi's sarcoma, tumor of maxillary sinus, fibrous histiocytoma, leiomyosarcoma, rhabdomyosarcoma, lymphoma, multiple myeloma or leukemia.

44. The peptide compound of claim **1**, wherein the mammal is a human.

45. The peptide compound of claim **1**, wherein the peptide compound comprises: (d-Bpa)(d-Ser)(d-Trp)(d-Ser)(d-Phe-2,3,4,5,6-F)(d-Cha)(d-Arg) (d-Arg)(d-Arg)(d-Gln)(d-Arg)(d-Arg), or (d-Arg)(d-Arg)(d-Arg)(d-Gln)(d-Arg) (d-Arg)(d-Bpa)(d-Ser)(d-Trp)(d-Ser)(d-Phe-2,3,4,5,6-F)(d-Cha).

46. The peptide compound of claim **1**, wherein the amount of the peptide compound administered is effective to treat the tumor or cancer.

47. The peptide compound of claim **1**, wherein its use inhibits or reduces relapse, growth, progression, worsening or metastasis of the tumor or cancer.

48. The peptide compound of claim **1**, wherein its use results in partial or complete destruction of the neoplastic, tumor, cancer or malignant cell mass, volume, size or numbers of cells, stimulating, inducing or increasing neoplastic, tumor, cancer or malignant cell necrosis, lysis or apoptosis, reducing neoplasia, tumor, cancer or malignancy volume size, cell mass, inhibiting or preventing progression or an increase in neoplasia, tumor, cancer or malignancy volume, mass, size or cell numbers, or prolonging lifespan.

49. The peptide compound of claim **1**, wherein its use reduces or decreases severity, duration or frequency of an adverse symptom or complication associated with or caused by the neoplasia, tumor, cancer or malignancy.

50. The peptide compound of claim **1**, wherein its use reduces or decreases pain, discomfort, nausea, weakness or lethargy, or results in increased energy, appetite, improved mobility or psychological well being.

51. The use of a peptide compound comprising (d-B pa)(d-Ser)(d-Trp)(d-Ser)(d-Phe-2,3,4,5,6-F)(d-Cha) (SEQ ID NO:1) in the manufacture of a medicament for increasing nucleic acid damage of a hyperproliferating cell or for the prophylaxis or treatment of a cell proliferative disorder in a mammal;

wherein the mammal has a white blood cell count of less than about 11,000 white blood cells per microliter (wbc/μl) of blood.

52. The use of claim **51**, wherein the mammal has a white blood cell count between about 4,000 to about 11,000 white blood cells per microliter (wbc/μl) of blood.

53. The use of claim **51**, wherein the mammal has a white blood cell count of less than about 10,000 white blood cells per microliter (wbc/μl) of blood.

54. The use of claim **51**, wherein the mammal has a white blood cell count of less than about 9,000 white blood cells per microliter (wbc/μl) of blood.

55. The use of claim **51**, wherein the mammal has a white blood cell count between about 4,000 to about 9,000 white blood cells per microliter (wbc/μl) of blood.

56. The use of claim **51**, wherein the mammal has a white blood cell count of less than about 8,000 white blood cells per microliter (wbc/μl) of blood.

57. The use of claim **51**, wherein the mammal has a white blood cell count of less than about 7,000 white blood cells per microliter (wbc/μl) of blood.

58. The use of claim **51**, wherein the peptide compound comprises a pharmaceutical formulation.

59. The use of claim **51**, wherein the pharmaceutically acceptable salt thereof is selected from acetate, sulfonate, sulfate, pyrosulfate, bisulfate, sulfite, bisulfite, phosphate, monohydrogen-phosphate, dihydrogenphosphate, metaphosphate, pyrophosphate, chloride, bromide, iodide, propionate, decanoate, caprylate, acrylate, formate, isobutyrate, caproate, heptanoate, propiolate, oxalate, malonate, succinate, suberate, sebacate, fumarate, maleate, butyne-1,4-dioate, hexyne-1,6-dioate, benzoate, chlorobenzoate, methyl benzoates, dinitrobenzoates, hydroxybenzoates, methoxybenzoates, phthalates, xylenesulfonate, phenylacetate, phenylpropionate, phenylbutyrate, citrate, lactate, -hydroxybutyrate, glycolate, tartrate, methane-sulfonate, propanesulfonate, naphthalene-1-sulfonate, naphthalene-2-sulfonate, and mandelate.

60. The use of claim **51**, wherein the peptide compound has a length from 6 to 10, 10 to 15, 15 to 20, 20 to 25, 25 to 30, 30 to 40, 40 to 50, 50 to 75, 75 to 100, 100 to 150, 150 to 200, or 200 to 300 amino acid residues.

61. The use of claim **51**, wherein the peptide compound further comprises a cell penetrating molecule attached or conjugated thereto.

62. The use of claim **61**, wherein the cell penetrating molecule is joined to the peptide compound by a covalent bond, or a peptide or a non-peptide linker.

63. The use of claim **61**, wherein the cell penetrating peptide comprises an alternating pattern of polar/charged amino acids and non-polar, hydrophobic amino acids.

64. The use of claim **61**, wherein the cell penetrating peptide comprises a polycationic or amphipathic alpha-helix structure.

65. The use of claim **51** or **61**, wherein the cell penetrating peptide comprises L- or D-isomer amino acids, or a mixture of L- and D-isomer amino acids.

66. The use of claim **61**, wherein the cell penetrating peptide comprises a poly-Arginine (Arg) sequence.

67. The use d of claim **61**, wherein the cell penetrating peptide comprises or consists of (d-Arg)(d-Arg)(d-Arg)(d-Gln)(d-Arg)(d-Arg).

68. The use of claim **51**, further comprising administering a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment.

69. The use of claim **68**, wherein the nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or anti-proliferative treatment comprises surgical resection, radiotherapy, ionizing or chemical radiation therapy, chemotherapy, immunotherapy, local or regional thermal (hyperthermia) therapy, vaccination, an alkylating agent, an anti-metabolite, a plant extract, a plant alkaloid, nitrosourea, a hormone, or a nucleoside or nucleotide analogue.

70. The use of claim **51**, wherein the peptide compound is administered prior to, with or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

71. The use of claim **51**, wherein the peptide compound is administered less than 48 hours prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

72. The use of claim **51**, wherein the peptide compound is administered less than 24 hours prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

73. The use of claim **51**, wherein the peptide compound is administered less than 12 hours prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

74. The use of claim **51**, wherein the peptide compound is administered less than 6 hours prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

75. The use of claim **51**, wherein the peptide compound is administered less than 4 hours prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

76. The use of claim **51**, wherein the peptide compound is administered less than 2 hours prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

77. The use of claim 51, wherein the peptide compound is administered less than 1 hour prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

78. The use of any one of claims **68** to **77**, wherein the nucleic acid damaging agent or anti-proliferative agent comprises a drug.

79. The use of any one of claims **68** to **77**, wherein the nucleic acid damaging agent or anti-proliferative agent comprises a platinum containing drug.

80. The use of any one of claims **68** to **77**, wherein the nucleic acid damaging agent or anti-proliferative agent comprises cis-platin, carboplatin, nedaplatin, mitaplatin, satraplatin, picoplatin, triplatin, miriplatin, or oxaliplatin.

81. The use of claim **51**, further comprising a platinum containing drug, cis-platin, carboplatin, oxaliplatin, pemetrexed, gemcitabine, 5-fluorouracil (5-FU), rebeccamycin, adriamycin (ADR), bleomycin (Bleo), pepleomycin, cisplatin, cisplatinum, or cis-diamminedichloroplatinum(II) (CDDP), oxaliplatin, or camptotecin (CPT), cyclophosphamide, azathioprine, cyclosporin A, prednisolone, melphalan, chlorambucil, mechlorethamine, busulphan, methotrexate, 6-mercaptopurine, thioguanine, 5-fluorouracil, cytosine arabinoside, AZT, 5-azacytidine (5-AZC) or a 5-azacytidine related compound, actinomycin D, mithramycin, mitomycin C, carmustine, lomustine, semustine, streptozotocin, hydroxyurea, cisplatin, mitotane, procarbazine, dacarbazine, a taxane, vinblastine, vincristine, doxorubicin, dibromomannitol, radiation or a radioisotope which is also to be administered.

82. The use of claim **81**, wherein the radiation comprises UV radiation, IR radiation, Xray, or alpha-, beta- or gamma-radiation.

83. The use of claim **81**, wherein the radioisotope comprises I^{131}, I^{125},Sr^{89}, Sm^{153}, Y^{90}, or Lu^{177}.

84. The use of claim 51, wherein the cell proliferative disorder comprises a tumor or cancer.

85. The use of claim **84**, wherein the cell proliferative disorder comprises a metastatic tumor or cancer.

86. The use of claim **84** or **85**, wherein the tumor or cancer comprises a lung tumor or cancer.

87. The use of claim **84** or **85**, wherein the lung tumor or cancer comprises a small cell or non-small cell lung cancer.

88. The use of claim **84** or **85**, wherein the lung tumor or cancer comprises an adenocarcinoma, squamous cell carcinoma or a large cell carcinoma.

89. The use of claim **84** or **85**, wherein the tumor or cancer comprises a carcinoma, sarcoma, lymphoma, leukemia, adenoma, adenocarcinoma, melanoma, glioma, glioblastoma, meningioma, neuroblastoma, retinoblastoma, astrocytoma, oligodendrocytoma, mesothelioma, reticuloendothelial, lymphatic or haematopoietic neoplasia, tumor, cancer or malignancy.

90. The use of claim **84** or 85, wherein the sarcoma comprises a lymphosarcoma, liposarcoma, osteosarcoma, chondrosarcoma, leiomyosarcoma, rhabdomyosarcoma or fibrosarcoma.

91. The use of claim **89**, wherein the haematopoietic neoplasia, tumor, cancer or malignancy comprises a myeloma, lymphoma or leukemia.

92. The use of claim **84** or **85**, wherein the tumor or cancer comprises a lung, thyroid, head or neck, nasopharynx, throat, nose or sinuses, brain, spine, breast, adrenal gland, pituitary gland, thyroid, lymph, gastrointestinal (mouth, esophagus, stomach, duodenum, ileum, jejunum (small intestine), colon, rectum), genito-urinary tract (uterus, ovary, cervix, endometrial, bladder, testicle, penis, prostate), kidney, pancreas, liver, bone, bone marrow, lymph, blood, muscle, or skin neoplasia, tumor, or cancer.

93. The use of claim **84** or **85**, wherein the tumor or cancer comprises a breast cancer, prostate cancer, pancreas cancer, gastric cancer, pleural mesothelioma, colon cancer, rectal cancer, large bowel cancer, small intestinal cancer, esophageal cancer, duodenal cancer, lingual cancer, pharyngeal cancer, salivary gland cancer, cerebral tumor, schwanoma, liver cancer, kidney cancer, bile duct cancer, endometrial cancer, cervical cancer, uterine body cancer, ovarian cancer, bladder cancer, urethral cancer, skin cancer, angioma, malignant lymphoma, malignant melanoma, thyroid cancer, parathyroid cancer, nasal cancer, paranasal cancer, auditory organ cancer, carcinoma of oral floor, laryngeal cancer, parotid cancer, submandibular cancer, bone tumor, angiofibroma, retinal sarcoma, penile cancer, testicular tumor, pediatric solid cancer, Kaposi's sarcoma, tumor of maxillary sinus, fibrous histiocytoma, leiomyosarcoma, rhabdomyosarcoma, lymphoma, multiple myeloma or leukemia.

94. The use of claim **51**, wherein the mammal is a human.

95. The use of claim **51**, wherein the peptide compound comprises: (d-Bpa)(d-Ser)(d-Trp)(d-Ser)(d-Phe-2,3,4,5,6-F)(d-Cha)(d-Arg) (d-Arg)(d-Arg)(d-Gln)(d-Arg)(d-Arg), or (d-Arg)(d-Arg)(d-Arg)(d-Gln)(d-Arg) (d-Arg)(d-Bpa)(d-Ser)(d-Trp)(d-Ser)(d-Phe-2,3,4,5,6-F)(d-Cha).

96. The use of claim **51**, wherein the amount of the peptide compound administered is effective to treat the tumor or cancer.

97. The use of claim **51**, wherein the administration of the medicament inhibits or reduces relapse, growth, progression, worsening or metastasis of the tumor or cancer.

98. The use of claim **51**, wherein the administration of the medicament results in partial or complete destruction of the neoplastic, tumor, cancer or malignant cell mass, volume, size or numbers of cells, stimulating, inducing or increasing neoplastic, tumor, cancer or malignant cell necrosis, lysis or apoptosis, reducing neoplasia, tumor, cancer or malignancy volume size, cell mass, inhibiting or preventing progression or an increase in neoplasia, tumor, cancer or malignancy volume, mass, size or cell numbers, or prolonging lifespan.

99. The use of claim **51**, wherein the administration of the medicament results in reducing or decreasing severity, duration or frequency of an adverse symptom or complication associated with or caused by the neoplasia, tumor, cancer or malignancy.

100. The use of claim **51**, wherein the administration of the medicament results in reducing or decreasing pain, discomfort, nausea, weakness or lethargy, or results in increased energy, appetite, improved mobility or psychological well being.

What is claimed is:

1. The use of a peptide compound comprising (d-B pa)(d-Ser)(d-Trp)(d-Ser)(d-Phe-2,3,4,5,6-F)(d-Cha) (SEQ ID NO:1) or salt thereof in the manufacture of a medicament for the treatment of a cell proliferative disorder in a mammal;

wherein the mammal has a white blood cell count of less than about 11,000 white blood cells per microliter (wbc/μl) of blood;

wherein the cell proliferative disorder comprises a tumor or cancer, or metastatic tumor or cancer.

2. The use of claim **1**, wherein the mammal has a white blood cell count between about 4,000 to about 11,000 white blood cells per microliter (wbc/μl) of blood.

3. The use of claim **1**, wherein the mammal has a white blood cell count of less than about 10,000 white blood cells per microliter (wbc/μl) of blood.

4. The use of claim **1**, wherein the mammal has a white blood cell count of less than about 9,000 white blood cells per microliter (wbc/μl) of blood.

5. The use of claim **1**, wherein the mammal has a white blood cell count between about 4,000 to about 9,000 white blood cells per microliter (wbc/μl) of blood.

6. The use of claim **1**, wherein the mammal has a white blood cell count of less than about 8,000 white blood cells per microliter (wbc/μl) of blood.

7. The use of claim **1**, wherein the mammal has a white blood cell count of less than about 7,000 white blood cells per microliter (wbc/μl) of blood.

8. The use of claim **1**, wherein the medicament is in the form of a pharmaceutical formulation.

9. The use of claim **1**, wherein the salt thereof is selected from acetate, sulfonate, sulfate, pyrosulfate, bisulfate, sulfite, bisulfite, phosphate, monohydrogen-phosphate, dihydrogenphosphate, metaphosphate, pyrophosphate, chloride, bromide, iodide, propionate, decanoate, caprylate, acrylate, formate, isobutyrate, caproate, heptanoate, propiolate, oxalate, malonate, succinate, suberate, sebacate, fumarate, maleate, butyne-1,4-dioate, hexyne-1,6-dioate, benzoate, chlorobenzoate, methyl benzoates, dinitrobenzoates, hydroxybenzoates, methoxybenzoates, phthalates, xylenesulfonate, phenylacetate, phenylpropionate, phenylbutyrate, citrate, lactate, -hydroxybutyrate, glycolate, tartrate, methane-sulfonate, propanesulfonate, naphthalene-1-sulfonate, naphthalene-2-sulfonate, and mandelate.

10. The use of claim **1**, wherein the peptide compound has a length from 6 to 10, 10 to 15, 15 to 20, 20 to 25, 25 to 30, 30 to 40, 40 to 50, 50 to 75, 75 to 100, 100 to 150, 150 to 200, or 200 to 300 amino acid residues.

11. The use of claim **1**, wherein the peptide compound further comprises a cell penetrating molecule attached or conjugated thereto.

12. The use of claim **11**, wherein the cell penetrating molecule is joined to the peptide compound by a covalent bond, or a peptide or a non-peptide linker.

13. The use of claim **11**, wherein the cell penetrating peptide comprises an alternating pattern of polar/charged amino acids and non-polar, hydrophobic amino acids.

14. The use of claim **11**, wherein the cell penetrating peptide comprises a polycationic or amphipathic alpha-helix structure.

15. The use of claim **1** or **11**, wherein the cell penetrating peptide comprises L- or D-isomer amino acids, or a mixture of L- and D-isomer amino acids.

16. The use of claim **11**, wherein the cell penetrating peptide comprises a poly-Arginine (Arg) sequence.

17. The use d of claim **11**, wherein the cell penetrating peptide comprises or consists of (d-Arg)(d-Arg)(d-Arg)(d-Gln)(d-Arg)(d-Arg).

18. The use of claim **1**, further comprising use of a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment.

19. The use of claim **18**, wherein the nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or anti-proliferative treatment comprises surgical resection, radiotherapy, ionizing or chemical radiation therapy, chemotherapy, immunotherapy, local or regional thermal (hyperthermia) therapy, vaccination, an alkylating agent, an anti-metabolite, a plant extract, a plant alkaloid, nitrosourea, a hormone, or a nucleoside or nucleotide analogue.

20. The use of claim **1**, wherein the peptide compound is administered prior to, with or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

21. The use of claim **1**, wherein the peptide compound is administered less than 48 hours prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

22. The use of claim **1**, wherein the peptide compound is administered less than 24 hours prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

23. The use of claim **1**, wherein the peptide compound is administered less than 12 hours prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

24. The use of claim **1**, wherein the peptide compound is administered less than 6 hours prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

25. The use of claim **1**, wherein the peptide compound is administered less than 4 hours prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

26. The use of claim **1**, wherein the peptide compound is administered less than 2 hours prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

27. The use of claim **1**, wherein the peptide compound is administered less than 1 hour prior to or after a nucleic acid damaging agent, a nucleic acid damaging treatment, an anti-proliferative agent, or an anti-proliferative treatment is administered.

28. The use of any one of claims **18 to 27**, wherein the nucleic acid damaging agent or anti-proliferative agent comprises a drug.

29. The use of any one of claims**18 to 27**, wherein the nucleic acid damaging agent or anti-proliferative agent comprises a platinum containing drug.

30. The use of any one of claims**18 to 27**, wherein the nucleic acid damaging agent or anti-proliferative agent comprises cis-platin, carboplatin, nedaplatin, mitaplatin, satraplatin, picoplatin, triplatin, miriplatin, or oxaliplatin.

31. The use of claim **1**, further comprising a platinum containing drug, cis-platin, carboplatin, oxaliplatin, pemetrexed, gemcitabine, 5-fiuorouracil (5-FU), rebeccamycin, adriamycin (ADR), bleomycin (Bleo), pepleomycin, cisplatin, cisplatinum, or cis-diamminedichloroplatinum(II) (CDDP), oxaliplatin, or camptotecin (CPT), cyclophosphamide, azathioprine, cyclosporin A, prednisolone, melphalan, chlorambucil, mechlorethamine, busulphan, methotrexate, 6-mercaptopurine, thioguanine, 5-fluorouracil, cytosine arabinoside, AZT, 5-azacytidine (5-AZC) or a 5-azacytidine related compound, actinomycin D, mithramycin, mitomycin C, carmustine, lomustine, semustine, streptozotocin, hydroxyurea, cisplatin, mitotane, procarbazine, dacarbazine, a taxane, vinblastine, vincristine, doxorubicin, dibromomannitol, radiation or a radioisotope which is also to be administered.

32. The use of claim **31**, wherein the radiation comprises UV radiation, IR radiation, Xray, or alpha-, beta- or gamma-radiation.

33. The use of claim **31**, wherein the radioisotope comprises I^{131}, I^{125},Sr^{89}, Sm^{153}, Y^{90}, or Lu^{177}.

34. The use of claim**1**, wherein the tumor or cancer comprises a lung tumor or cancer.

35. The use of claim**1**, wherein the lung tumor or cancer comprises a small cell or non-small cell lung cancer.

36. The use of claim**1**, wherein the lung tumor or cancer comprises an adenocarcinoma, squamous cell carcinoma or a large cell carcinoma.

37. The use of claim**1**, wherein the tumor or cancer comprises a carcinoma, sarcoma, lymphoma, leukemia, adenoma, adenocarcinoma, melanoma, glioma, glioblastoma, meningioma, neuroblastoma, retinoblastoma, astrocytoma, oligodendrocytoma, mesothelioma, reticuloendothelial, lymphatic or haematopoietic neoplasia, tumor, cancer or malignancy.

38. The use of claim**1**, wherein the sarcoma comprises a lymphosarcoma, liposarcoma, osteosarcoma, chondrosarcoma, leiomyosarcoma, rhabdomyosarcoma or fibrosarcoma.

39. The use of claim **37**, wherein the haematopoietic neoplasia, tumor, cancer or malignancy comprises a myeloma, lymphoma or leukemia.

40. The use of claim**1**, wherein the tumor or cancer comprises a lung, thyroid, head or neck, nasopharynx, throat, nose or sinuses, brain, spine, breast, adrenal gland, pituitary gland, thyroid, lymph, gastrointestinal (mouth, esophagus, stomach, duodenum, ileum, jejunum (small intestine), colon, rectum), genito-urinary tract (uterus, ovary, cervix, endometrial, bladder, testicle, penis, prostate), kidney, pancreas, liver, bone, bone marrow, lymph, blood, muscle, or skin neoplasia, tumor, or cancer.

41. The use of claim**1**, wherein the tumor or cancer comprises a breast cancer, prostate cancer, pancreas cancer, gastric cancer, pleural mesothelioma, colon cancer, rectal cancer, large bowel cancer, small intestinal cancer, esophageal cancer, duodenal cancer, lingual cancer, pharyngeal cancer, salivary gland cancer, cerebral tumor, schwanoma, liver cancer, kidney cancer, bile duct cancer, endometrial cancer, cervical cancer, uterine body cancer, ovarian cancer, bladder cancer, urethral cancer, skin cancer, angioma, malignant lymphoma, malignant melanoma, thyroid cancer, parathyroid cancer, nasal cancer, paranasal cancer, auditory organ cancer, carcinoma of oral floor, laryngeal cancer, parotid cancer, submandibular cancer, bone tumor, angiofibroma, retinal sarcoma, penile cancer, testicular tumor, pediatric solid cancer, Kaposi's sarcoma, tumor of maxillary sinus, fibrous histiocytoma, leiomyosarcoma, rhabdomyosarcoma, lymphoma, multiple myeloma or leukemia.

42. The use of claim **1**, wherein the mammal is a human.

43. The use of claim **1**, wherein the peptide compound comprises: (d-Bpa)(d-Ser)(d-Trp)(d-Ser)(d-Phe-2,3,4,5,6-F)(d-Cha)(d-Arg) (d-Arg)(d-Arg)(d-Gln)(d-Arg)(d-Arg), or (d-Arg)(d-Arg)(d-Arg)(d-Gln)(d-Arg) (d-Arg)(d-Bpa)(d-Ser)(d-Trp)(d-Ser)(d-Phe-2,3,4,5,6-F)(d-Cha).

44. The use of claim **1**, wherein the peptide compound used is5 mg/kg to 100 mg/kg.

45. The use of claim **1**, wherein the administering of the medicament inhibits or reduces relapse, growth, progression, worsening or metastasis of the tumor or cancer.

46. The use of claim **1**, wherein the administering of the medicament results in partial or complete destruction of the neoplastic, tumor, cancer or malignant cell mass, volume, size or

numbers of cells, stimulating, inducing or increasing neoplastic, tumor, cancer or malignant cell necrosis, lysis or apoptosis, reducing neoplasia, tumor, cancer or malignancy volume size, cell mass, inhibiting or preventing progression or an increase in neoplasia, tumor, cancer or malignancy volume, mass, size or cell numbers, or prolonging lifespan.

47. The use of claim **1**, wherein the administering of the medicament results in reducing or decreasing severity, duration or frequency of an adverse symptom or complication associated with or caused by the neoplasia, tumor, cancer or malignancy.

48. The use of claim **1**, wherein the administering of the medicament results in reducing or decreasing pain, discomfort, nausea, weakness or lethargy, or results in increased energy, appetite, improved mobility or psychological well being.