CLAIMS

1. A composition comprising an Smac mimetic compound and an Immune Checkpoint Inhibitor wherein said Smac mimetic compound and said Immune Checkpoint Inhibitor are to be provided in amounts that together are sufficient to treat cancer in a patient in need thereof.

2. The composition of claim 1, wherein said Smac mimetic compound is a Smac mimetic compound selected from the group consisting of GDC-0152/ RG7419; GDC-0145; AEG40826/ HGS1029; LCL-161; AT-406/ SM406/ Debio1143/ D1143; TL32711/ Birinapant (formerly TL32711); GDC-0917/ CUDC-427; APG-1387/ SM-1387; AZD5582; T-3256336; JP1584; JP1201; GT-A; AT-IAP; inhib1; inhib2; BI-75D2; T5TR1; ML-101; MLS-0390866; MLS-; ML183; SM-83; SMAC037/SM37; SMAC066; SMC9a; OICR-720; SM-164; SM1200; SM-173; Compound 21; WS-5; SH-130; SM162; SM163 (compound 3); SM337; SM122 (or SH122); AEG40730; LBW242; BV6; MV1; ATRA hybrid; SNIPER (bestatin and Estrogen receptor ligand fusion); RMT5265; JP1010; JP1400; ABT-10; A-410099.1; 822B; GT13402; and SW iii -123 (sigma2R ligand hybrid).

3. The composition of claim 1 or 2, wherein said Immune Checkpoint Inhhibitor is an Immune Checkpoint Inhhibitor selected from the group consisting of Ipilimumab (MDX-010, 10D1); Tremelimumab (CP-675,206, ticilimumab); Pembrolizumab (lambrolizumab, MK-3475); Nivolumab (MDX-1106, BMS-936558, ONO-4538); Pidilizumab (CT-011, MDV9300); AMP-224 (a fusion protein); AMP-514 (MEDI0680); AUNP 12 (a peptide); PDR001; BGB-A317; REGN2810; Avelumab (MSB0010718C); BMS-935559 (MDX-1105); Atezolizumab (MPDL3280A, RG7446); Durvalumab (MEDI4736); BMS-986016; LAG525; IMP321; MBG453; Lirilumab (IPH2102/BMS-986015); and MGA271.

4. Use of a Smac mimetic compound for the manufacture of a medicament for the treatment of cancer in a patient,

wherein the Smac mimetic compound is selected from the group consisting of GDC-0152/ RG7419; GDC-0145; AEG40826/ HGS1029; LCL-161; AT-406/ SM406/ Debio1143/ D1143; TL32711/ Birinapant (formerly TL32711); GDC-0917/ CUDC-427; APG-1387/ SM-1387; AZD5582; T-3256336; JP1584; JP1201; GT-A; AT-IAP; inhib1; inhib2; BI-75D2; T5TR1; ML-101; MLS-0390866; MLS-; ML183; SM-83; SMAC037/SM37; SMAC066; SMC9a; OICR-720; SM-164; SM1200; SM-173; Compound 21; WS-5; SH-130; SM162; SM163 (compound 3); SM337; SM122 (or SH122); AEG40730; LBW242; BV6; MV1; ATRA hybrid; SNIPER (bestatin and Estrogen receptor ligand fusion); RMT5265; JP1010; JP1400; ABT-10; A-410099.1; 822B; GT13402; and SW iii -123 (sigma2R ligand hybrid);

wherein said Smac mimetic compound is to be administered with an Immune Checkpoint Inhhibitor, preferably selected from the group consisting of Ipilimumab (MDX-010, 10D1); Tremelimumab (CP-675,206, ticilimumab); Pembrolizumab (lambrolizumab, MK-3475); Nivolumab (MDX-1106, BMS-936558, ONO-4538); Pidilizumab (CT-011, MDV9300); AMP-224 (a fusion protein); AMP-514 (MEDI0680); AUNP 12 (a peptide); PDR001; BGB-A317; REGN2810; Avelumab (MSB0010718C); BMS-935559 (MDX-1105); Atezolizumab (MPDL3280A, RG7446); Durvalumab (MEDI4736); BMS-986016; LAG525; IMP321; MBG453; Lirilumab (IPH2102/BMS-986015) and MGA271; and

wherein said Smac mimetic compound and said Immune Checkpoint Inhibitor are to be administered simultaneously or within 28 days of each other in amounts that together are sufficient to treat said cancer.

5. The use according to claim 4, wherein said Smac mimetic compound and said Immune Checkpoint Inhhibitor are to be administered within 14 days of each other, or within 10 days of each other, or within 5 days of each other, or within 24 hours of each other, or within 6 hours of each other or substantially simultaneously.

6. The use according to claim 4 or 5, wherein said Smac mimetic compound is a monovalent Smac mimetic compound.

7. The use according to claim 6, wherein said Smac mimetic compound is selected from LCL161, GDC-0152/RG7419, GDC-0917/CUDC-427, and SM-406/AT-406/Debio1143.

8. The use according to claim 4 or 5, wherein said Smac mimetic compound is a bivalent Smac mimetic compound.

9. The use according to claim 8, wherein said Smac mimetic compound is selected from AEG40826/HGS1049, OICR720, TL32711 and SM-1387/APG-1387.

10. The use according to any one of claims 4 to 9 in the treatment of cancer refractory to treatment by a Smac mimetic compound in the absence of an Immune Checkpoint Inhibitor.

11. The use according to any one of claims 4 to 10, wherein a therapeutic agent comprising an interferon is to be further administered, wherein said interferon is preferably a type 1 interferon.

12. The use according to any one of claims 4 to 11, wherein said cancer is selected from adrenal cancer, basal cell carcinoma, biliary tract cancer, bladder cancer, bone cancer, brain cancer, breast cancer, cervical cancer, choriocarcinoma, colon cancer, colorectal cancer, connective tissue cancer, cancer of the digestive system, endometrial cancer, epipharyngeal carcinoma, esophageal cancer, eye cancer, gallbladder cancer, gastric cancer, cancer of the head and neck, hepatocellular carcinoma, intra-epithelial neoplasm, kidney cancer, laryngeal cancer, leukemia, liver cancer, liver metastases, lung cancer, lymphoma, melanoma, myeloma, multiple myeloma, neuroblastoma, mesothelioma, neuroglioma, myelodysplastic syndrome, multiple myeloma, oral cavity cancer, ovarian cancer, paediatric cancer, pancreatic cancer, pancreatic endocrine tumors, penile cancer, plasma cell tumors, pituitary adenoma, thymoma, prostate cancer, renal cell carcinoma, cancer of the respiratory system, rhabdomyosarcoma, salivary gland cancer, sarcoma, skin cancer, small bowel cancer, stomach cancer, testicular cancer, thyroid cancer, ureteral cancer, and cancer of the urinary system.

13. Use of an Immune Checkpoint Inhibitor in the manufacture of a medicament for the treatment of cancer in a patient,

wherein the Immune Checkpoint Inhhibitor is to be administered with a Smac mimetic compound, which is selected from the group consisting of GDC-0152/ RG7419; GDC-0145; AEG40826/ HGS1029; LCL-161; AT-406/ SM406/ Debio1143/ D1143; TL32711/ Birinapant (formerly TL32711); GDC-0917/ CUDC-427; APG-1387/ SM-1387; AZD5582; T-3256336; JP1584; JP1201; GT-A; AT-IAP; inhib1; inhib2; BI-75D2; T5TR1; ML-101; MLS-0390866; MLS-; ML183; SM-83; SMAC037/SM37; SMAC066; SMC9a; OICR-720; SM-164; SM1200; SM-173; Compound 21; WS-5; SH-130; SM162; SM163 (compound 3); SM337; SM122 (or SH122); AEG40730; LBW242; BV6; MV1; ATRA hybrid; SNIPER (bestatin and Estrogen receptor ligand fusion); RMT5265; JP1010; JP1400; ABT-10; A-410099.1; 822B; GT13402; and SW iii -123 (sigma2R ligand hybrid); and

wherein said Smac mimetic compound and said Immune Checkpoint Inhibitor are to be administered simultaneously or within 28 days of each other in amounts that together are sufficient to treat said cancer.

14. The use according to claim 13, wherein the Immune Checkpoint Inhhibitor is selected from the group consisting of Ipilimumab (MDX-010, 10D1); Tremelimumab (CP-675,206, ticilimumab); Pembrolizumab (lambrolizumab, MK-3475); Nivolumab (MDX-1106, BMS-936558, ONO-4538); Pidilizumab (CT-011, MDV9300); AMP-224 (a fusion protein); AMP-514 (MEDI0680); AUNP 12 (a peptide); PDR001; BGB-A317; REGN2810; Avelumab (MSB0010718C); BMS-935559 (MDX-1105); Atezolizumab (MPDL3280A, RG7446); Durvalumab (MEDI4736); BMS-986016; LAG525; IMP321; MBG453; Lirilumab (IPH2102/BMS-986015); and MGA271

15. The use according to claim 13 or 14, wherein said Immune Checkpoint Inhhibitor and said Smac mimetic compound are to be administered within 14 days of each other, or within 10 days of each other, or within 5 days of each other, or within 24 hours of each other, or within 6 hours of each other or substantially simultaneously.

16. The use according to any one of claims 13 to 15, in the treatment of cancer that is refractory to treatment by a Smac mimetic compound in the absence of an Immune Checkpoint Inhibitor.

17. The use according to any one of claims 13 to 16, wherein a therapeutic agent comprising an interferon is to be further administered, wherein said interferon is preferably a type 1 interferon.

18. The use according to any one of claims 13 to 17, wherein said cancer is selected from adrenal cancer, basal cell carcinoma, biliary tract cancer, bladder cancer, bone cancer, brain cancer, breast cancer, cervical cancer, choriocarcinoma, colon cancer, colorectal cancer, connective tissue cancer, cancer of the digestive system, endometrial cancer, epipharyngeal carcinoma, esophageal cancer, eye cancer, gallbladder cancer, gastric cancer, cancer of the head and neck, hepatocellular carcinoma, intra-epithelial neoplasm, kidney cancer, laryngeal cancer, leukemia, liver cancer, liver metastases, lung cancer, lymphoma, melanoma, myeloma, multiple myeloma, neuroblastoma, mesothelioma, neuroglioma, myelodysplastic syndrome, multiple myeloma, oral cavity cancer, ovarian cancer, paediatric cancer, pancreatic cancer, pancreatic endocrine tumors, penile cancer, plasma cell tumors, pituitary adenoma, thymoma, prostate cancer, renal cell carcinoma, cancer of the respiratory

system, rhabdomyosarcoma, salivary gland cancer, sarcoma, skin cancer, small bowel cancer, stomach cancer, testicular cancer, thyroid cancer, ureteral cancer, and cancer of the urinary system.