Formula IV, of Formula V, of Formula VI, of Formula IV-X, of Formula IV-Y, of Formula IV-Z, of Formula VII, of Formula VIII, of Formula IX, and of Formula X; (vi) TNO155; (vii) Compound C, (viii) a compound from Table 1, disclosed herein; (ix) a compound from Table 2, disclosed herein; and (x) a combination thereof.

75. A method of inhibiting the growth of a tumor cell, comprising contacting the tumor cell with a combination therapy comprising a MEK inhibitor and an inhibitor of SHP2.

76. The method of claim 75, wherein the MEK inhibitor is selected from one or more of Trametinib (GSK1120212), Selumetinib (AZD6244), Cobimetinib (GDC-0973/XL581), Binimetinib, Vemurafenib, Pimasertib, TAK733, RO4987655 (CH4987655), CI-1040; PD-0325901, CH5126766, MAP855, Refametinib (RDEA 119/BAY 86-9766), RO5126766, AZD8330 (ARRY-424704/ARRY-704), and GSK1120212.

77. The method of claim 75 or 76, wherein the inhibitor of SHP2 is selected from (i) Compound A; (ii) Compound B; (iii) SHP099; (iv) NSC-87877; (v) a SHP2 inhibitor compound of any one of Formula I, of Formula II, of Formula III, of Formula I-V1, of Formula I-V2, of Formula I-W, of Formula I-X, of Formula I-Y, of Formula I-Z, of Formula IV, of Formula V, of Formula VI, of Formula IV-X, of Formula IV-Y, of Formula IV-Z, of Formula VII, of Formula VIII, of Formula IX, and of Formula X; (vi) TNO155; (vii) Compound C, (viii) a compound from Table 1, disclosed herein; (ix) a compound from Table 2, disclosed herein; and (x) a combination thereof.

78. The method of any one of claims 75-77, wherein the MEK inhibitor is Trametinib (GSK1120212).

79. The method of any one of claims 75-78, wherein the inhibitor of SHP2 is Compound B.

80. The method of claim 75, wherein the MEK inhibitor is Trametinib (GSK1120212) and the inhibitor of SHP2 is Compound B.

81. The method of any one of claims 75-80, wherein the tumor cell is a cell from a tumor selected from tumors of hemopoietic and lymphoid system; a myeloproliferative syndrome; a

myelodysplastic syndromes; leukemia; acute myeloid leukemia; juvenile myelomonocytic leukemia; esophageal cancer; breast cancer; lung cancer; colon cancer; gastric cancer; neuroblastoma; bladder cancer; prostate cancer; glioblastoma; urothelial carcinoma; uterine carcinoma; adenoid and ovarian sereous cystadenocarcinoma; paraganglioma; phaeochromocytoma; pancreatic cancer; adrenocortical carcinoma; stomach adenocarcinoma; sarcoma; rhabdomyosarcoma; lymphoma; head and neck cancer; skin cancer; peritoneum cancer; intestinal cancer (small and large intesting); thyroid cancer; endometrial cancer; cancer of the biliary tract; soft tissue cancer; ovarian cancer; central nervous system cancer (e.g.; primary CNS lymphoma); stomach cancer; pituitary cancer; genital tract cancer; urinary tract cancer; salivary gland cancer; cervical cancer; liver cancer; eye cancer; cancer of the adrenal gland; cancer of autonomic ganglia; cancer of the upper aerodigestive tract; bone cancer; testicular cancer; pleura cancer; kidney cancer; penis cancer; parathyroid cancer; cancer of the meninges; vulvar cancer and melanoma.

82. The method of any one of claims 75-80, wherein the tumor is from a NSCLC tumor.

83. The method of any one of claims 75-82, wherein the contacting occurs *in vivo* in a subject.

84. The method of claim 83, wherein the subject is a human.

85. The method of any one of claims 75-84, wherein the contacting of the tumor cell with the combination therapy comprising the MEK inhibitor and the inhibitor of SHP2 results in an inhibition of tumor growth that is more than merely additive with respect to the amount of tumor growth inhibition achievable by contacting the tumor cell with each of the respective MEK and inhibitor of SHP2 separately.

86. The method of any one of claims 75-85, wherein the MEK inhibitor and the inhibitor of SHP2 do not contact the tumor cell simultaneously.

87. The method of any one of claims 75-85, wherein the MEK inhibitor and the inhibitor of SHP2 contact the tumor cell simultaneously.

88. The method of any one of claims 85-87, wherein the contacting is via administration of the MEK inhibitor and the inhibitor of SHP2 to the subject.

89. The method of claim 88, wherein the administration of the MEK inhibitor precedes the administration of the inhibitor of SHP2.

90. The method of claim 88, wherein the administration of the inhibitor of SHP2 precedes the administration of the MEK inhibitor.

91. The method of claim 88, wherein the administration of the inhibitor of SHP2 and the administration of the MEK inhibitor occurs simultaneously.

92. The method of claim 91, wherein the inhibitor of SHP2 and the MEK inhibitor are administered as a single pharmaceutical composition.

93. The method of claim 91, wherein the inhibitor of SHP2 and the MEK inhibitor are administered as separate pharmaceutical compositions.

94. The method of any one of claims 75-93, wherein the growth of the tumor cell is inhibited enough to case partial or complete regression of the tumor.

95. A method of inhibiting the growth of a tumor cell, comprising contacting the tumor cell a combination therapy comprising trametinib (GSK1120212) and Compound B.

96. The method of claim 95, wherein the tumor cell is from a NSCLC tumor.

97. The method of claim 95 or 96, wherein the contacting occurs *in vivo* in a subject.

98. The method of claim 97, wherein the subject is a human.

99. The method of any one of claims 95-98, wherein the contacting of the tumor cell with the combination therapy comprising trametinib (GSK1120212) and Compound B results in an inhibition of tumor growth that is more than merely additive with respect to the amount of

tumor growth inhibition achievable by contacting the tumor cell with each of trametinib (GSK1120212) and Compound B separately.

100. The method of any one of claims 95-99, wherein the growth of the tumor cell is inhibited enough to case partial or complete regression of the tumor.

101. A method of treating a subject having a tumor, comprising contacting a tumor cell in the tumor in the subject with a combination therapy comprising a MEK inhibitor and a inhibitor of SHP2.

102. The method of claim 101, wherein the MEK inhibitor is selected from one or more of Trametinib (GSK1120212); Selumetinib (AZD6244); Cobimetinib (GDC-0973/XL581), Binimetinib, Vemurafenib, Pimasertib, TAK733, RO4987655 (CH4987655), CI-1040; PD-0325901; CH5126766; MAP855; Refametinib (RDEA 119/BAY 86-9766); RO5126766, AZD8330 (ARRY-424704/ARRY-704); and GSK1120212.

103. The method of claim 101 or 102, wherein the inhibitor of SHP2 is selected from (i) Compound A; (ii) Compound B; (iii) SHP099; (iv) NSC-87877; (v) a SHP2 inhibitor compound of any one of Formula I, of Formula II, of Formula III, of Formula I-V1, of Formula I-V2, of Formula I-W, of Formula I-X, of Formula I-Y, of Formula I-Z, of Formula IV, of Formula V, of Formula VI, of Formula IV-X, of Formula IV-Y, of Formula IV-Z, of Formula VII, of Formula VIII, of Formula IX, and of Formula X; (vi) TNO155; (vii) Compound C, (viii) a compound from Table 1, disclosed herein; (ix) a compound from Table 2, disclosed herein; and (x) a combination thereof.

104. The method of claim 101, wherein the MEK inhibitor is Trametinib (GSK1120212).

105. The method of any one of claims 101-104, wherein the inhibitor of SHP2 is Compound B.

106. The method of claim 101, wherein the MEK inhibitor is Trametinib (GSK1120212) and the inhibitor of SHP2 is Compound B.

107. The method of any one of claims 101-106, wherein the tumor cell is a cell from a tumor selected from tumors of hemopoietic and lymphoid system; a myeloproliferative syndrome; a myelodysplastic syndromes; leukemia; acute myeloid leukemia; juvenile myelomonocytic leukemia; esophageal cancer; breast cancer; lung cancer; colon cancer; gastric cancer; neuroblastoma; bladder cancer; prostate cancer; glioblastoma; urothelial carcinoma; uterine carcinoma; adenoid and ovarian sereous cystadenocarcinoma; paraganglioma; phaeochromocytoma; pancreatic cancer; adrenocortical carcinoma; stomach adenocarcinoma; sarcoma; rhabdomyosarcoma; lymphoma; head and neck cancer; skin cancer; peritoneum cancer; intestinal cancer (small and large intesting); thyroid cancer; endometrial cancer; cancer of the biliary tract; soft tissue cancer; ovarian cancer; central nervous system cancer (e.g.; primary CNS lymphoma); stomach cancer; pituitary cancer; genital tract cancer; urinary tract cancer; salivary gland cancer; cervical cancer; liver cancer; eye cancer; cancer of the adrenal gland; cancer of autonomic ganglia; cancer of the upper aerodigestive tract; bone cancer; testicular cancer; pleura cancer; kidney cancer; penis cancer; parathyroid cancer; cancer of the meninges; vulvar cancer and melanoma.

108. The method of any one of claims 101-107, wherein the tumor cell is from a NSCLC tumor.

109. The method of any one of claims 101-108, wherein the contacting occurs *in vivo* in a subject.

110. The method of claim 109, wherein the subject is a human.

111. The method of any one of claims 101-110, wherein the contacting of the tumor cell with the combination therapy comprising the MEK inhibitor and the inhibitor of SHP2 results in an inhibition of tumor growth that is more than merely additive with respect to the amount of tumor growth inhibition achievable by contacting the tumor cell with each of the respective MEK and inhibitor of SHP2 separately.

112. The method of any one of claims 101-111, wherein the MEK inhibitor and the inhibitor of SHP2 do not contact the tumor cell simultaneously.

113. The method of any one of claims 101-111, wherein the MEK inhibitor and the inhibitor of SHP2 contact the tumor cell simultaneously.

114. The method of any one of claims 111-113, wherein the contacting is via administration of the MEK inhibitor and the inhibitor of SHP2 to the subject.

115. The method of claim 114, wherein the administration of the MEK inhibitor precedes the administration of the inhibitor of SHP2.

116. The method of claim 114, wherein the administration of the inhibitor of SHP2 precedes the administration of the MEK inhibitor.

117. The method of claim 114, wherein the administration of the inhibitor of SHP2 and the administration of the MEK inhibitor occurs simultaneously.

118. The method of claim 117, wherein the inhibitor of SHP2 and the MEK inhibitor are administered as a single pharmaceutical composition.

119. The method of claim 117, wherein the inhibitor of SHP2 and the MEK inhibitor are administered as separate pharmaceutical compositions.

120. The method of any one of claims 101-119, wherein the treatment inhibits the growth of the tumor cell.

121. The method of claim 120, wherein the growth of the tumor cell is inhibited enough to case partial or complete regression of the tumor.

122. A method of treating a subject having a tumor, comprising contacting a tumor cell of the tumor in the subject with a combination therapy comprising trametinib (GSK1120212) and Compound B.

123. The method of claim 122, wherein the tumor cell is from a NSCLC tumor.

124. The method of claim 122 or 123, wherein the contacting occurs *in vivo* in a subject.

125. The method of claim 124, wherein the subject is a human.

126. The method of any one of claims 122-125, wherein the contacting of the tumor cell with the combination therapy comprising trametinib (GSK1120212) and Compound B results in an inhibition of tumor growth that is more than merely additive with respect to the amount of tumor growth inhibition achievable by contacting the tumor cell with each of trametinib (GSK1120212) and Compound B separately.

127. The method of any one of claims 122-126, wherein the growth of the tumor cell is inhibited enough to case partial or complete regression of the tumor.

128. The method of any one of claims 1-36, 49-78, 80-94, 101-104, 107-121, wherein the inhibitor of SHP2 is Compound C.

129. The combination therapy of any one of claims 37-43, wherein the inhibitor of SHP2 is Compound C.

130. The pharmaceutical composition of any one of claims 44-48, wherein the inhibitor of SHP2 is Compound C.

131. A method of inhibiting the growth of a tumor cell, comprising contacting the tumor cell with a combination therapy comprising trametinib (GSK1120212) and Compound C.

132. The method of claim 131, wherein the tumor cell is from a NSCLC tumor.

133. The method of claim 131 or 132, wherein the contacting occurs *in vivo* in a subject.

134. The method of claim 133, wherein the subject is a human.

135. The method of any one of claims 131-134, wherein the contacting of the tumor cell with the combination therapy comprising trametinib (GSK1120212) and Compound C results in an inhibition of tumor growth that is more than merely additive with respect to the amount

of tumor growth inhibition achievable by contacting the tumor cell with each of trametinib (GSK1120212) and Compound C separately.

136. The method of any one of claims 131-135, wherein the growth of the tumor cell is inhibited enough to case partial or complete regression of the tumor.

137. A method of treating a subject having a tumor, comprising contacting a tumor cell of the tumor in the subject with a combination therapy comprising trametinib (GSK1120212) and Compound C.

138. The method of claim 137, wherein the tumor cell is from a NSCLC tumor.

139. The method of claim 137 or 138, wherein the contacting occurs *in vivo* in a subject.

140. The method of claim 139, wherein the subject is a human.

141. The method of any one of claims 137-140, wherein the contacting of the tumor cell with the combination therapy comprising trametinib (GSK1120212) and Compound C results in an inhibition of tumor growth that is more than merely additive with respect to the amount of tumor growth inhibition achievable by contacting the tumor cell with each of trametinib (GSK1120212) and Compound C separately.

142. The method of any one of claims 137-141, wherein the growth of the tumor cell is inhibited enough to case partial or complete regression of the tumor.

143. The method of any one of claim 1-36 and 49, comprising administering a therapeutically effective amount of the inhibitor of SHP2.

144. The method of any one of claims 50-128 and 131-142, comprising contacting the cell with a therapeutically effective amount of the inhibitor of SHP2.

145. The combination therapy of any one of claims 37-43 and 129, comprising a therapeutically effective amount of the inhibitor of SHP2.

146. The pharmaceutical composition of any one of claims 44-48 and 130, comprising a therapeutically effective amount of the inhibitor of SHP2.

147. The method of any one of claims 50-74, wherein the contacting is *in vivo* in a subject.

148. The method of claim 147, wherein the subject is a human.