WHAT IS CLAIMED IS:

1. A ~~method for inhibiting proliferation, survival or viability of a tumor cell, the method comprising introducing into the tumor cell a~~ nucleic acid oligomer ~~that is~~ characterized by:

a) a backbone wherein all internucleoside linkages of the backbone are ~~comprising~~ phosphorothioate internucleoside linkages;

~~(i) a purine content of at least about 50%, or (ii)~~ a purine content of at least about 45% with a guanosine-cytosine (GC) content of at least about 50%; and

a length of ~~at least 14 nucleobases and~~ no more than 29 nucleobases, wherein the nucleic acid oligomer comprises the nucleobase sequence set forth in SEQ ID NO: 1,

wherein the oligomer binds to one or both of a THO complex subunit 4 (THOC4) protein and a single-stranded DNA-binding protein 1 (SSB1).

~~2. A method for inhibiting proliferation, survival or viability of a tumor cell, the method consisting essentially of introducing into the tumor cell a nucleic acid oligomer that is characterized by:~~

~~a) a backbone comprising phosphorothioate internucleoside linkages;~~
~~(i) a purine content of at least about 50%, or (ii) a purine content of at least about 45% with a guanosine-cytosine (GC) content of at least about 50%; and~~
~~a length of at least 14 nucleobases and no more than 29 nucleobases,~~
~~wherein the oligomer binds to one or both of a THO complex subunit 4 (THOC4) protein and a single-stranded DNA-binding protein 1 (SSB1).~~

~~3. A method for inhibiting proliferation, survival or viability of a tumor cell, the method consisting of introducing into the tumor cell a nucleic acid oligomer that is characterized by:~~

~~a) a backbone comprising phosphorothioate internucleoside linkages;~~
~~(i) a purine content of at least about 50%, or (ii) a purine content of at least about 45% with a guanosine-cytosine (GC) content of at least about 50%; and~~
~~a length of at least 14 nucleobases and no more than 29 nucleobases,~~
~~wherein the oligomer binds to one or both of a THO complex subunit 4 (THOC4) protein and a single-stranded DNA-binding protein 1 (SSB1).~~

~~4. The method of any one of claims 1 to 3, wherein the oligomer has a length of 14 nucleobases.~~

~~5. The method of claim 4, wherein the oligomer consists of 7 purines.~~

~~6. The method of claim 4, wherein the oligomer consists of 6 purines and 7 G/C.~~

~~7. The method of claim 4, wherein the oligomer consists of 8 purines.~~

~~8. The method of claim 4, wherein the oligomer consists of 9 purines.~~

~~9. The method of claim 4, wherein the oligomer consists of 10 purines.~~

~~10. The method of claim 4, wherein the oligomer consists of 11 purines.~~

~~11. The method of claim 4, wherein the oligomer consists of 12 purines.~~

~~12. The method of claim 4, wherein the oligomer consists of 13 purines.~~

~~13. The method of any one of claims 1 to 3, wherein the oligomer has a length of 15 nucleobases.~~

~~14. The method of claim 13, wherein the oligomer consists of 8 purines.~~

~~15. The method of claim 13, wherein the oligomer consists of 7 purines and 8 G/C.~~

~~16. The method of claim 13, wherein the oligomer consists of 9 purines.~~

~~17. The method of claim 13, wherein the oligomer consists of 10 purines.~~

~~18. The method of claim 13, wherein the oligomer consists of 11 purines.~~

~~19. The method of claim 13, wherein the oligomer consists of 12 purines.~~

~~20. The method of claim 13, wherein the oligomer consists of 13 purines.~~

~~21. The method of claim 13, wherein the oligomer consists of 14 purines.~~

~~22. The method of any one of claims 1 to 3, wherein the oligomer has a length of 16 nucleobases.~~

~~23. The method of claim 22, wherein the oligomer consists of 8 purines.~~

~~24. The method of claim 22, wherein the oligomer consists of 7 purines and 8 G/C.~~

~~25. The method of claim 22, wherein the oligomer consists of 9 purines.~~

~~26. The method of claim 22, wherein the oligomer consists of 10 purines.~~

~~27. The method of claim 22, wherein the oligomer consists of 11 purines.~~

~~28. The method of claim 22, wherein the oligomer consists of 12 purines.~~

~~29. The method of claim 22, wherein the oligomer consists of 13 purines.~~

~~30. The method of claim 22, wherein the oligomer consists of 14 purines.~~

~~31. The method of claim 22, wherein the oligomer consists of 15 purines.~~

~~32. The method of any one of claims 1 to 3, wherein the oligomer has a length of 17 nucleobases.~~

~~33. The method of claim 32, wherein the oligomer consists of 9 purines.~~

~~34. The method of claim 32, wherein the oligomer consists of 8 purines and 9 G/C.~~

~~35. The method of claim 32, wherein the oligomer consists of 10 purines.~~

~~36. The method of claim 32, wherein the oligomer consists of 11 purines.~~

~~37. The method of claim 32, wherein the oligomer consists of 12 purines.~~

~~38. The method of claim 32, wherein the oligomer consists of 13 purines.~~

~~39. The method of claim 32, wherein the oligomer consists of 14 purines.~~

~~40. The method of claim 32, wherein the oligomer consists of 15 purines.~~

~~41. The method of claim 32, wherein the oligomer consists of 16 purines.~~

~~42. The method of any one of claims 1 to 3, wherein the oligomer has a length of 18 nucleobases.~~

~~43. The method of claim 42, wherein the oligomer consists of 9 purines.~~

~~44. The method of claim 42, wherein the oligomer consists of 8 purines and 9 G/C.~~

~~45. The method of claim 42, wherein the oligomer consists of 10 purines.~~

~~46. The method of claim 42, wherein the oligomer consists of 11 purines.~~

~~47. The method of claim 42, wherein the oligomer consists of 12 purines.~~

~~48. The method of claim 42, wherein the oligomer consists of 13 purines.~~

~~49. The method of claim 42, wherein the oligomer consists of 14 purines.~~

~~50. The method of claim 42, wherein the oligomer consists of 15 purines.~~

~~51. The method of claim 42, wherein the oligomer consists of 16 purines.~~

~~52. The method of claim 42, wherein the oligomer consists of 17 purines.~~

~~53. The method of any one of claims 1 to 3, wherein the oligomer has a length of 19 nucleobases.~~

~~54. The method of claim 53, wherein the oligomer consists of 10 purines.~~

~~55. The method of claim 53, wherein the oligomer consists of 9 purines and 10 G/C.~~

~~56. The method of claim 53, wherein the oligomer consists of 11 purines.~~

~~57. The method of claim 53, wherein the oligomer consists of 12 purines.~~

~~58. The method of claim 53, wherein the oligomer consists of 13 purines.~~

~~59. The method of claim 53, wherein the oligomer consists of 14 purines.~~

~~60. The method of claim 53, wherein the oligomer consists of 15 purines.~~

~~61. The method of claim 53, wherein the oligomer consists of 16 purines.~~

~~62. The method of claim 53, wherein the oligomer consists of 17 purines.~~

~~63. The method of claim 53, wherein the oligomer consists of 18 purines.~~

~~64. The method of any one of claims 1 to 3, wherein the oligomer has a length of 20 nucleobases.~~

~~65. The method of claim 64, wherein the oligomer consists of 10 purines.~~

~~66. The method of claim 64, wherein the oligomer consists of 9 purines and 10 G/C.~~

~~67. The method of claim 64, wherein the oligomer consists of 11 purines.~~

~~68. The method of claim 64, wherein the oligomer consists of 12 purines.~~

~~69. The method of claim 64, wherein the oligomer consists of 13 purines.~~

~~70. The method of claim 64, wherein the oligomer consists of 14 purines.~~

~~71. The method of claim 64, wherein the oligomer consists of 15 purines.~~

~~72. The method of claim 64, wherein the oligomer consists of 16 purines.~~

~~73. The method of claim 64, wherein the oligomer consists of 17 purines.~~

~~74. The method of claim 64, wherein the oligomer consists of 18 purines.~~

~~75. The method of claim 64, wherein the oligomer consists of 19 purines.~~

~~76. The method of any one of claims 1 to 3, wherein the oligomer has a length of 21 nucleobases.~~

~~77. The method of claim 76, wherein the oligomer consists of 11 purines.~~

~~78. The method of claim 76, wherein the oligomer consists of 9 purines and 11 G/C.~~

~~79. The method of claim 76, wherein the oligomer consists of 12 purines.~~

~~80. The method of claim 76, wherein the oligomer consists of 13 purines.~~

~~81. The method of claim 76, wherein the oligomer consists of 14 purines.~~

~~82. The method of claim 76, wherein the oligomer consists of 15 purines.~~

~~83. The method of claim 76, wherein the oligomer consists of 16 purines.~~

~~84. The method of claim 76, wherein the oligomer consists of 17 purines.~~

~~85. The method of claim 76, wherein the oligomer consists of 18 purines.~~

~~86. The method of claim 76, wherein the oligomer consists of 19 purines.~~

~~87. The method of claim 76, wherein the oligomer consists of 20 purines.~~

~~88. The method of any one of claims 1 to 3, wherein the oligomer has a length of 22 nucleobases.~~

~~89. The method of claim 88, wherein the oligomer consists of 11 purines.~~

~~90. The method of claim 88, wherein the oligomer consists of 10 purines and 11 G/C.~~

~~91. The method of claim 88, wherein the oligomer consists of 12 purines.~~

~~92. The method of claim 88, wherein the oligomer consists of 13 purines.~~

~~93. The method of claim 88, wherein the oligomer consists of 14 purines.~~

~~94. The method of claim 88, wherein the oligomer consists of 15 purines.~~

~~95. The method of claim 88, wherein the oligomer consists of 16 purines.~~

~~96. The method of claim 88, wherein the oligomer consists of 17 purines.~~

~~97. The method of claim 88, wherein the oligomer consists of 18 purines.~~

~~98. The method of claim 88, wherein the oligomer consists of 19 purines.~~

~~99. The method of claim 88, wherein the oligomer consists of 20 purines.~~

~~100. The method of claim 88, wherein the oligomer consists of 21 purines.~~

~~101. The method of any one of claims 1 to 3, wherein the oligomer has a length of 23 nucleobases.~~

~~102. The method of claim 101, wherein the oligomer consists of 12 purines.~~

~~103. The method of claim 101, wherein the oligomer consists of 10 purines and 12 G/C.~~

~~104. The method of claim 101, wherein the oligomer consists of 13 purines.~~

~~105. The method of claim 101, wherein the oligomer consists of 14 purines.~~

~~106. The method of claim 101, wherein the oligomer consists of 15 purines.~~

~~107. The method of claim 101, wherein the oligomer consists of 16 purines.~~

~~108. The method of claim 101, wherein the oligomer consists of 17 purines.~~

~~109. The method of claim 101, wherein the oligomer consists of 18 purines.~~

~~110. The method of claim 101, wherein the oligomer consists of 19 purines.~~

~~111. The method of claim 101, wherein the oligomer consists of 20 purines.~~

~~112. The method of claim 101, wherein the oligomer consists of 21 purines.~~

~~113. The method of claim 101, wherein the oligomer consists of 22 purines.~~

~~114. The method of any one of claims 1 to 3, wherein the oligomer has a length of 24 nucleobases.~~

~~115. The method of claim 114, wherein the oligomer consists of 12 purines.~~

~~116. The method of claim 114, wherein the oligomer consists of 11 purines and 12 G/C.~~

~~117. The method of claim 114, wherein the oligomer consists of 13 purines.~~

~~118. The method of claim 114, wherein the oligomer consists of 14 purines.~~

~~119. The method of claim 114, wherein the oligomer consists of 15 purines.~~

~~120. The method of claim 114, wherein the oligomer consists of 16 purines.~~

~~121. The method of claim 114, wherein the oligomer consists of 17 purines.~~

~~122. The method of claim 114, wherein the oligomer consists of 18 purines.~~

~~123. The method of claim 114, wherein the oligomer consists of 19 purines.~~

~~124. The method of claim 114, wherein the oligomer consists of 20 purines.~~

~~125. The method of claim 114, wherein the oligomer consists of 21 purines.~~

~~126. The method of claim 114, wherein the oligomer consists of 22 purines.~~

~~127. The method of claim 114, wherein the oligomer consists of 23 purines.~~

~~128. The method of any one of claims 1 to 3, wherein the oligomer has a length of 25 nucleobases.~~

~~129. The method of claim 128, wherein the oligomer consists of 13 purines.~~

~~130. The method of claim 128, wherein the oligomer consists of 11 purines and 13 G/C.~~

~~131. The method of claim 128, wherein the oligomer consists of 14 purines.~~

~~132. The method of claim 128, wherein the oligomer consists of 15 purines.~~

~~133. The method of claim 128, wherein the oligomer consists of 16 purines.~~

~~134. The method of claim 128, wherein the oligomer consists of 17 purines.~~

~~135. The method of claim 128, wherein the oligomer consists of 18 purines.~~

~~136. The method of claim 128, wherein the oligomer consists of 19 purines.~~

~~137. The method of claim 128, wherein the oligomer consists of 20 purines.~~

~~138. The method of claim 128, wherein the oligomer consists of 21 purines.~~

~~139. The method of claim 128, wherein the oligomer consists of 22 purines.~~

~~140. The method of claim 128, wherein the oligomer consists of 23 purines.~~

~~141. The method of claim 128, wherein the oligomer consists of 24 purines.~~

~~142. The method of any one of claims 1 to 3, wherein the oligomer has a length of 26 nucleobases.~~

~~143. The method of claim 142, wherein the oligomer consists of 13 purines.~~

~~144. The method of claim 142, wherein the oligomer consists of 12 purines and 13 G/C.~~

~~145. The method of claim 142, wherein the oligomer consists of 14 purines.~~

~~146. The method of claim 142, wherein the oligomer consists of 15 purines.~~

~~147. The method of claim 142, wherein the oligomer consists of 16 purines.~~

~~148. The method of claim 142, wherein the oligomer consists of 17 purines.~~

~~149. The method of claim 142, wherein the oligomer consists of 18 purines.~~

~~150. The method of claim 142, wherein the oligomer consists of 19 purines.~~

~~151. The method of claim 142, wherein the oligomer consists of 20 purines.~~

~~152. The method of claim 142, wherein the oligomer consists of 21 purines.~~

~~153. The method of claim 142, wherein the oligomer consists of 22 purines.~~

~~154. The method of claim 142, wherein the oligomer consists of 23 purines.~~

~~155. The method of claim 142, wherein the oligomer consists of 24 purines.~~

~~156. The method of claim 142, wherein the oligomer consists of 25 purines.~~

~~157. The method of any one of claims 1 to 3, wherein the oligomer has a length of 27 nucleobases.~~

~~158. The method of claim 157, wherein the oligomer consists of 14 purines.~~

~~159. The method of claim 157, wherein the oligomer consists of 12 purines and 14 G/C.~~

~~160. The method of claim 157, wherein the oligomer consists of 15 purines.~~

~~161. The method of claim 157, wherein the oligomer consists of 16 purines.~~

~~162. The method of claim 157, wherein the oligomer consists of 17 purines.~~

~~163. The method of claim 157, wherein the oligomer consists of 18 purines.~~

~~164. The method of claim 157, wherein the oligomer consists of 19 purines.~~

~~165. The method of claim 157, wherein the oligomer consists of 20 purines.~~

~~166. The method of claim 157, wherein the oligomer consists of 21 purines.~~

~~167. The method of claim 157, wherein the oligomer consists of 22 purines.~~

~~168. The method of claim 157, wherein the oligomer consists of 23 purines.~~

~~169. The method of claim 157, wherein the oligomer consists of 24 purines.~~

~~170. The method of claim 157, wherein the oligomer consists of 25 purines.~~

~~171. The method of claim 157, wherein the oligomer consists of 26 purines.~~

~~172. The method of any one of claims 1 to 3, wherein the oligomer has a length of 28 nucleobases.~~

~~173. The method of claim 172, wherein the oligomer consists of 14 purines.~~

~~174. The method of claim 172, wherein the oligomer consists of 13 purines and 14 G/C.~~

~~175. The method of claim 172, wherein the oligomer consists of 15 purines.~~

~~176. The method of claim 172, wherein the oligomer consists of 16 purines.~~

~~177. The method of claim 172, wherein the oligomer consists of 17 purines.~~

~~178. The method of claim 172, wherein the oligomer consists of 18 purines.~~

~~179. The method of claim 172, wherein the oligomer consists of 19 purines.~~

~~180. The method of claim 172, wherein the oligomer consists of 20 purines.~~

~~181. The method of claim 172, wherein the oligomer consists of 21 purines.~~

~~182. The method of claim 172, wherein the oligomer consists of 22 purines.~~

~~183. The method of claim 172, wherein the oligomer consists of 23 purines.~~

184. The method of claim 172, wherein the oligomer consists of 24 purines.

185. The method of claim 172, wherein the oligomer consists of 25 purines.

186. The method of claim 172, wherein the oligomer consists of 26 purines.

187. The method of claim 172, wherein the oligomer consists of 27 purines.

188. The method of any one of claims 1 to 3, wherein the oligomer has a length of 29 nucleobases.

189. The method of claim 188, wherein the oligomer consists of 15 purines.

190. The method of claim 188, wherein the oligomer consists of 13 purines and 15 G/C.

191. The method of claim 188, wherein the oligomer consists of 16 purines.

192. The method of claim 188, wherein the oligomer consists of 17 purines.

193. The method of claim 188, wherein the oligomer consists of 18 purines.

194. The method of claim 188, wherein the oligomer consists of 19 purines.

195. The method of claim 188, wherein the oligomer consists of 20 purines.

196. The method of claim 188, wherein the oligomer consists of 21 purines.

197. The method of claim 188, wherein the oligomer consists of 22 purines.

198. The method of claim 188, wherein the oligomer consists of 23 purines.

199. The method of claim 188, wherein the oligomer consists of 24 purines.

200. The method of claim 188, wherein the oligomer consists of 25 purines.

201. The method of claim 188, wherein the oligomer consists of 26 purines.

202. The method of claim 188, wherein the oligomer consists of 27 purines.

203. The method of claim 188, wherein the oligomer consists of 28 purines.

204. The method of any one of claims 1 to 203, wherein at least about 70% of the internucleoside linkages of the backbone comprise phosphorothioate (PS) internucleoside linkages.

205. The method of claim 204, wherein any non-PS internucleoside linkages are located at one or both ends of the oligomer

206. The method of claim 204 or claim 205, wherein any non-PS internucleoside linkages are located in a central portion of the oligomer.

207. The method of claim 204, wherein any non-PS internucleoside linkages are dispersed throughout the oligomer.

208. The method of any one of claims 204 to 207, wherein up to 9 internucleoside linkages are non-PS internucleoside linkages.

~~209. The method of any one of claims 204 to 207, wherein up to 8 internucleoside linkages are non-PS internucleoside linkages.~~

~~210. The method of any one of claims 204 to 207, wherein up to 7 internucleoside linkages are non-PS internucleoside linkages.~~

~~211. The method of any one of claims 204 to 207, wherein up to 6 internucleoside linkages are non-PS internucleoside linkages.~~

~~212. The method of any one of claims 204 to 207, wherein up to 5 internucleoside linkages are non-PS internucleoside linkages.~~

~~213. The method of any one of claims 204 to 207, wherein up to 4 internucleoside linkages are non-PS internucleoside linkages.~~

~~214. The method of any one of claims 204 to 207, wherein up to 3 internucleoside linkages are non-PS internucleoside linkages.~~

~~215. The method of any one of claims 204 to 207, wherein up to 2 internucleoside linkages are non-PS internucleoside linkages.~~

~~216. The method of any one of claims 204 to 207, wherein up to 1 internucleoside linkage is a non-PS internucleoside linkage.~~

~~217. The method of claim 204, wherein all internucleoside linkages are PS internucleoside linkages.~~

~~218. The method of any one of claims 1 to 217, wherein the oligomer is further characterized in that it blocks translocation of mRNA from the nucleus to the cytoplasm of the tumor cell.~~

~~219. The method of any one of claims 1 to 218, wherein the oligomer is further characterized in that it is preferentially taken up by the tumor cell, as compared to its uptake by a non-tumor cell.~~

~~220. The method of any one of claims 1 to 219, wherein the oligomer is further characterized in that it causes apoptosis or necrosis of the tumor cell.~~

~~221. The method of claim 220, wherein the oligomer causes more death of tumor cells of the same type as the tumor cell than of non-tumor cells.~~

~~222. The method of any one of claims 1 to 221, wherein the oligomer is further characterized in that it binds to one or both of THOC4 and SSB1 with higher affinity than a control oligomer.~~

~~223. The method of any one of claims 1 to 222, wherein the oligomer is introduced into the tumor cell *in vivo*.~~

~~224. The method of any one of claims 1 to 222, wherein the oligomer is introduced into the tumor cell *in vitro*.~~

~~225. The method of any one of claims 1 to 224, wherein the oligomer is further characterized in that has a melting temperature (Tm) of at least about 45° C.~~

~~226.~~2. The nucleic acid oligomer ~~method~~ of ~~any one of~~ claims ~~1 to 225~~, wherein the backbone of the oligomer comprises at least one 2′-O-alkyl modified sugar moiety.

3. The nucleic acid oligomer of claim 2, wherein all sugar moieties of the oligomer are each a 2′-O-alkyl modified sugar moiety.

~~227. The method of claim 226, wherein at least about 50% of the nucleosides of the oligomer are each a 2′ O-alkyl nucleoside.~~

~~228. The method of any one of claims 226 to 227, wherein the oligomer consists of 14 nucleobases an comprises from 7 to 14 2′ O-alkyl nucleosides.~~

~~229. The method of any one of claims 226 to 227, wherein the oligomer consists of 15 nucleobases an comprises from 8 to 15 2′-O-alkyl nucleosides.~~

~~230. The method of any one of claims 226 to 227, wherein the oligomer consists of 16 nucleobases an comprises from 8 to 16 2′ O-alkyl nucleosides.~~

~~231. The method of any one of claims 226 to 227, wherein the oligomer consists of 17 nucleobases an comprises from 9 to 17 2′-O-alkyl nucleosides.~~

~~232. The method of any one of claims 226 to 227, wherein the oligomer consists of 18 nucleobases an comprises from 9 to 18 2′ O-alkyl nucleosides.~~

~~233. The method of any one of claims 226 to 227, wherein the oligomer consists of 19 nucleobases an comprises from 10 to 19 2′ O-alkyl nucleosides.~~

~~234. The method of any one of claims 226 to 227, wherein the oligomer consists of 20 nucleobases an comprises from 10 to 20 2′ O-alkyl nucleosides.~~

~~235. The method of any one of claims 226 to 227, wherein the oligomer consists of 21 nucleobases an comprises from 11 to 21 2′ O-alkyl nucleosides.~~

~~236. The method of any one of claims 226 to 227, wherein the oligomer consists of 22 nucleobases an comprises from 11 to 22 2′-O-alkyl nucleosides.~~

~~237. The method of any one of claims 226 to 227, wherein the oligomer consists of 23 nucleobases an comprises from 12 to 23 2′ O-alkyl nucleosides.~~

~~238. The method of any one of claims 226 to 227, wherein the oligomer consists of 24 nucleobases an comprises from 12 to 24 2′-O-alkyl nucleosides.~~

~~239. The method of any one of claims 226 to 227, wherein the oligomer consists of 25 nucleobases an comprises from 13 to 25 2′ O-alkyl nucleosides.~~

~~240. The method of any one of claims 226 to 227, wherein the oligomer consists of 26 nucleobases an comprises from 13 to 26 2′ O-alkyl nucleosides.~~

~~241. The method of any one of claims 226 to 227, wherein the oligomer consists of 27 nucleobases an comprises from 14 to 27 2′-O-alkyl nucleosides.~~

~~242. The method of any one of claims 226 to 227, wherein the oligomer consists of 28 nucleobases an comprises from 14 to 28 2′ O-alkyl nucleosides.~~

~~243. The method of any one of claims 226 to 227, wherein the oligomer consists of 29 nucleobases an comprises from 15 to 29 2′ O-alkyl nucleosides.~~

~~244. The method of any one of claims 226 to 227, wherein the oligomer consists~~

~~245. The method of any one of claims 226 to 227, wherein the oligomer consists of 15 nucleobases an comprises from 7 to 15 2′ O-alkyl nucleosides.~~

~~246.~~4. The nucleic acid oligomer ~~method~~ of ~~any one of~~ claim~~s~~ ~~226 to 245~~2 or claim 3, wherein the 2′-O-alkyl modified sugar moiety ~~2′ O-alkyl nucleoside~~ is a 2′-O-methyl nucleoside.

~~247. The method of any one of claims 1 to 246, wherein the nucleobase sequence over the length of the oligomer lacks substantially complementarity to the transcriptome.~~

~~248. The method of claim 247, wherein no more than about 95% of the nucleobases of the oligomer are able to engage in base-pairing with the transcriptome.~~

~~249. The method of claim 248, wherein the oligomer consists of 14 to 29 nucleobases and has at least one non-complementary nucleobase that is unable to base-pair with a nucleobase of a reference nucleobase sequence of the transcriptome.~~

~~250. The method of claim 247, wherein no more than about 90% of the nucleobases of the oligomer are able to engage in base-pairing with the transcriptome.~~

~~251. The method of claim 250, wherein the oligomer consists of 14 to 29 nucleobases and has at least 1, 2, or 3 non-complementary nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are unable to base-pair with a nucleobase of a reference nucleobase sequence of the transcriptome.~~

~~252. The method of claim 247, wherein no more than about 85% of the nucleobases of the oligomer are able to engage in base-pairing with the transcriptome.~~

~~253. The method of claim 252, wherein the oligomer consists of 14 to 29 nucleobases and has at least 2, 3 or 4 non-complementary nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are unable to base-pair with a nucleobase of a reference nucleobase sequence of the transcriptome.~~

~~254. The method of claim 247, wherein no more than about 80% of the nucleobases of the oligomer are able to engage in base-pairing with the transcriptome.~~

~~255. The method of claim 254, wherein the oligomer consists of 14 to 29 nucleobases and has at least 3, 4, 5 or 6 non-complementary nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are unable to base-pair with a nucleobase of a reference nucleobase sequence of the transcriptome.~~

~~256. The method of claim 247, wherein no more than about 75% of the nucleobases of the oligomer are able to engage in base-pairing with the transcriptome.~~

~~257. The method of claim 256, wherein the oligomer consists of 14 to 29 nucleobases and has at least 3, 4, 5, 6 or 7 non-complementary nucleobases, depending on~~

the length of the oligomer, as calculated from TABLE 1 *supra*, which are unable to base-pair with a nucleobase of a reference nucleobase sequence of the transcriptome.

258. The method of claim 247, wherein no more than about 70% of the nucleobases of the oligomer are able to engage in base-pairing with the transcriptome.

259. The method of claim 258, wherein the oligomer consists of 14 to 29 nucleobases and has at least 4, 5, 6, 7, 8 or 9 non-complementary nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are unable to base-pair with a nucleobase of a reference nucleobase sequence of the transcriptome.

260. The method of claim 247, wherein no more than about 65% of the nucleobases of the oligomer are able to engage in base-pairing with the transcriptome.

261. The method of claim 260, wherein the oligomer consists of 14 to 29 nucleobases and has at least 5, 6, 7, 8, 9 or 10 non-complementary nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are unable to base-pair with a nucleobase of a reference nucleobase sequence of the transcriptome.

262. The method of claim 247, wherein no more than about 60% of the nucleobases of the oligomer are able to engage in base-pairing with the transcriptome.

263. The method of claim 262, wherein the oligomer consists of 14 to 29 nucleobases and has at least 6, 7, 8, 9, 10, 11 or 12 non-complementary nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are unable to base-pair with a nucleobase of a reference nucleobase sequence of the transcriptome.

264. The method of claim 247, wherein no more than about 55% of the nucleobases of the oligomer are able to engage in base-pairing with the transcriptome.

265. The method of claim 264, wherein the oligomer consists of 14 to 29 nucleobases and has at least 6, 7, 8, 9, 10, 11, 12 or 13 non-complementary nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are unable to base-pair with a nucleobase of a reference nucleobase sequence of the transcriptome.

266. The method of claim 247, wherein no more than about 50% of the nucleobases of the oligomer are able to engage in base-pairing with the transcriptome.

267. The method of claim 266, wherein the oligomer consists of 14 to 29 nucleobases and has at least 7, 8, 9, 10, 11, 12, 13 or 14 non-complementary nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are unable to base-pair with a nucleobase of a reference nucleobase sequence of the transcriptome.

268. The method of any one of claims 1 to 267, wherein the nucleobase sequence over the length of the oligomer lacks substantial complementarity to the genome of a mammal from which the tumor cell is suitably derived.

269. The method of claim 268, wherein no more than about 95% of the nucleobases of the oligomer are able to engage in base-pairing with the genome.

270. The method of claim 269, wherein the oligomer consists of 14 to 29 nucleobases and has at least one non-complementary nucleobase that is unable to base-pair with a nucleobase of a reference nucleobase sequence of the genome.

271. The method of claim 247, wherein no more than about 90% of the nucleobases of the oligomer are able to engage in base-pairing with the genome.

272. The method of claim 271, wherein the oligomer consists of 14 to 29 nucleobases and has at least 1, 2, or 3 non-complementary nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are unable to base-pair with a nucleobase of a reference nucleobase sequence of the genome.

273. The method of claim 247, wherein no more than about 85% of the nucleobases of the oligomer are able to engage in base-pairing with the genome.

274. The method of claim 273, wherein the oligomer consists of 14 to 29 nucleobases and has at least 2, 3 or 4 non-complementary nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are unable to base-pair with a nucleobase of a reference nucleobase sequence of the genome.

275. The method of claim 247, wherein no more than about 80% of the nucleobases of the oligomer are able to engage in base-pairing with the genome.

276. The method of claim 275, wherein the oligomer consists of 14 to 29 nucleobases and has at least 3, 4, 5 or 6 non-complementary nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are unable to base-pair with a nucleobase of a reference nucleobase sequence of the genome.

277. The method of claim 247, wherein no more than about 75% of the nucleobases of the oligomer are able to engage in base-pairing with the genome.

278. The method of claim 277, wherein the oligomer consists of 14 to 29 nucleobases and has at least 3, 4, 5, 6 or 7 non-complementary nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are unable to base-pair with a nucleobase of a reference nucleobase sequence of the genome.

279. The method of claim 247, wherein no more than about 70% of the nucleobases of the oligomer are able to engage in base-pairing with the genome.

280. The method of claim 279, wherein the oligomer consists of 14 to 29 nucleobases and has at least 4, 5, 6, 7, 8 or 9 non-complementary nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are unable to base-pair with a nucleobase of a reference nucleobase sequence of the genome.

281. The method of claim 247, wherein no more than about 65% of the nucleobases of the oligomer are able to engage in base-pairing with the genome.

282. The method of claim 281, wherein the oligomer consists of 14 to 29 nucleobases and has at least 5, 6, 7, 8, 9 or 10 non-complementary nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are unable to base-pair with a nucleobase of a reference nucleobase sequence of the genome.

283. The method of claim 247, wherein no more than about 60% of the nucleobases of the oligomer are able to engage in base-pairing with the genome.

284. The method of claim 283, wherein the oligomer consists of 14 to 29 nucleobases and has at least 6, 7, 8, 9, 10, 11 or 12 non-complementary nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are unable to base-pair with a nucleobase of a reference nucleobase sequence of the genome.

285. The method of claim 247, wherein no more than about 55% of the nucleobases of the oligomer are able to engage in base-pairing with the genome.

286. The method of claim 285, wherein the oligomer consists of 14 to 29 nucleobases and has at least 6, 7, 8, 9, 10, 11, 12 or 13 non-complementary nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are unable to base-pair with a nucleobase of a reference nucleobase sequence of the genome.

287. The method of claim 247, wherein no more than about 50% of the nucleobases of the oligomer are able to engage in base-pairing with the genome.

288. The method of claim 287, wherein the oligomer consists of 14 to 29 nucleobases and has at least 7, 8, 9, 10, 11, 12, 13 or 14 non-complementary nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are unable to base-pair with a nucleobase of a reference nucleobase sequence of the genome.

289. The method of any one of claims 1 to 288, wherein the nucleobase sequence over the length of the oligomer lacks homology to the genome of a mammal from which the tumor cell is suitably derived.

290. The method of claim 289, wherein the nucleobase sequence over the length of the oligomer has no more than about 95% sequence identity to any equal length of contiguous nucleobases defining a reference nucleobase sequence in the genome.

291. The method of claim 290, wherein the oligomer consists of 14 to 29 nucleobases and has at least one nucleobase that is not identical to, or does not have the same or equivalent nucleobase-pairing ability as, a nucleobase at a matching position of the reference nucleobase sequence.

292. The method of claim 289, wherein the nucleobase sequence over the length of the oligomer has no more than about 90% sequence identity to any equal length of contiguous nucleobases defining a reference nucleobase sequence in the genome.

293. The method of claim 292, wherein the oligomer consists of 14 to 29 nucleobases and has at least 1, 2, or 3 nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are not identical to, or does not have the same or equivalent nucleobase-pairing ability as, a nucleobase at a matching position of the reference nucleobase sequence.

294. The method of claim 289, wherein the nucleobase sequence over the length of the oligomer has no more than about 85% sequence identity to any equal length of contiguous nucleobases defining a reference nucleobase sequence in the genome.

~~295. The method of claim 294, wherein the oligomer consists of 14 to 29 nucleobases and has at least 2, 3 or 4 nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are not identical to, or does not have the same or equivalent nucleobase-pairing ability as, a nucleobase at a matching position of the reference nucleobase sequence.~~

~~296. The method of claim 289, wherein the nucleobase sequence over the length of the oligomer has no more than about 80% sequence identity to any equal length of contiguous nucleobases defining a reference nucleobase sequence in the genome.~~

~~297. The method of claim 296, wherein the oligomer consists of 14 to 29 nucleobases and has at least 3, 4, 5 or 6 nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are not identical to, or does not have the same or equivalent nucleobase-pairing ability as, a nucleobase at a matching position of the reference nucleobase sequence.~~

~~298. The method of claim 289, wherein the nucleobase sequence over the length of the oligomer has no more than about 75% sequence identity to any equal length of contiguous nucleobases defining a reference nucleobase sequence in the genome.~~

~~299. The method of claim 298, wherein the oligomer consists of 14 to 29 nucleobases and has at least 3, 4, 5, 6 or 7 nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are not identical to, or does not have the same or equivalent nucleobase-pairing ability as, a nucleobase at a matching position of the reference nucleobase sequence.~~

~~300. The method of claim 289, wherein the nucleobase sequence over the length of the oligomer has no more than about 70% sequence identity to any equal length of contiguous nucleobases defining a reference nucleobase sequence in the genome.~~

~~301. The method of claim 300, wherein the oligomer consists of 14 to 29 nucleobases and has at least 4, 5, 6, 7, 8 or 9 nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are not identical to, or does not have the same or equivalent nucleobase-pairing ability as, a nucleobase at a matching position of the reference nucleobase sequence.~~

~~302. The method of claim 289, wherein the nucleobase sequence over the length of the oligomer has no more than about 65% sequence identity to any equal length of contiguous nucleobases defining a reference nucleobase sequence in the genome.~~

~~303. The method of claim 302, wherein the oligomer consists of 14 to 29 nucleobases and has at least 5, 6, 7, 8, 9 or 10 nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are not identical to, or does not have the same or equivalent nucleobase-pairing ability as, a nucleobase at a matching position of the reference nucleobase sequence.~~

~~304. The method of claim 289, wherein the nucleobase sequence over the length of the oligomer has no more than about 60% sequence identity to any equal length of contiguous nucleobases defining a reference nucleobase sequence in the genome.~~

305. The method of claim 304, wherein the oligomer consists of 14 to 29 nucleobases and has at least 6, 7, 8, 9, 10, 11 or 12 nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are not identical to, or does not have the same or equivalent nucleobase-pairing ability as, a nucleobase at a matching position of the reference nucleobase sequence.

306. The method of claim 289, wherein the nucleobase sequence over the length of the oligomer has no more than about 55% sequence identity to any equal length of contiguous nucleobases defining a reference nucleobase sequence in the genome.

307. The method of claim 306, wherein the oligomer consists of 14 to 29 nucleobases and has at least 6, 7, 8, 9, 10, 11, 12 or 13 nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are not identical to, or does not have the same or equivalent nucleobase-pairing ability as, a nucleobase at a matching position of the reference nucleobase sequence e.

308. The method of claim 289, wherein the nucleobase sequence over the length of the oligomer has no more than about 50% sequence identity to any equal length of contiguous nucleobases defining a reference nucleobase sequence in the genome.

309. The method of claim 308, wherein the oligomer consists of 14 to 29 nucleobases and has at least 7, 8, 9, 10, 11, 12, 13 or 14 nucleobases, depending on the length of the oligomer, as calculated from TABLE 1 *supra*, which are not identical to, or does not have the same or equivalent nucleobase-pairing ability as, a nucleobase at a matching position of the reference nucleobase sequence.

310. The method of any one of claims 1 to 246, wherein the nucleobase sequence over the length of the oligomer has substantial complementarity to an antisense strand of a selected gene.

311. The method of claim 310, wherein the nucleobase sequence is complementary to and hybridizes to a target sequence of the selected gene or transcript thereof under high stringency conditions.

312. The method of of any one of claims 1 to 311, wherein the nucleobase sequence is selected from any one of SEQ ID NO: 1, 2, 3, 5, 6, 7, 10, 12, 14, 15, 16, 17, 21, 22, 23, 24, 25, 27, 28, 29, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 44, 45, 51, 52, 53, 54, 55, 56, 59, 61, 62, 63, 64, 66, 67, 68, 69, 70, 71, 72, 73, 79, 80, 81, 82, 83, 84, 85, 91, 92, 93, 94, 98, 100, 101, 103, 104, 105, 107, 108, 109, 110, 111, 113, 114, 115, 117, 118, 119, 120, 121, 122, 131, 132, 133, 134, 135, 137, 138, 143, 144, 145, 152, 153, 155, 156, 158, 159, 160, 161, 162, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 177, 180, 181, 182, 183, 184, 185, 191, 192, 196, 198, 203, 206, 207, 209, 210, 211, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 244, 245, 247, 248, 249, 250, 251, 252, 253, 256, 258, 259, 261, 263, 264, 265, 269, 270, 271, 272, 274, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 295, 296, 297, 298, 299, 300, 301 and 303.

~~313. The method of of any one of claims 1 to 311, wherein the nucleobase sequence is selected from any one of SEQ ID NO: 1, 2, 3, 5, 6, 10, 12, 14, 15, 16, 17, 21, 22, 23, 24, 25, 28, 32, 31, 34, 35, 36, 38, 39, 41, 44, 52, 56, 53, 54, 59, 61, 63, 64, 66, 67, 68, 69, 70, 71, 72, 73, 79, 80, 81, 82, 83, 84, 91, 92, 93, 98, 100, 103, 104, 107, 109, 110, 111, 113, 114, 117, 118, 119, 120, 121, 122, 131, 132, 133, 134, 135, 143, 144, 145, 153, 155, 156, 158, 159, 160, 161, 162, 164, 165, 167, 168, 169, 170, 171, 172, 180, 181, 182, 191, 192, 203, 224, 225, 226, 227, 229, 230, 233, 234, 235, 236, 238, 239, 240, 245, 247, 251, 252, 253, 258, 259, 261, 263, 264, 269, 271, 272, 274, 285, 286, 287, 288, 289, 290, 291, 292, 293, 295, 296, 297, 298, 299, 300, 301 and 303.~~

~~314. The method of of any one of claims 1 to 311, wherein the nucleobase sequence is selected from any one of SEQ ID NO: 1, 2, 3, 5, 14, 16, 17, 31, 34, 35, 36, 38, 39, 52, 56, 67, 68, 69, 70, 71, 79, 80, 81, 82, 83, 91, 92, 93, 100, 103, 109, 110, 111, 114, 119, 131, 133, 134, 135, 143, 153, 155, 158, 159, 161, 164, 168, 169, 171, 181, 182, 203, 253, 272, 300, 301 and 303.~~

~~315. The method of of any one of claims 1 to 314, wherein the tumor cell is selected from breast, prostate, ovarian, cervical, pancreatic, colorectal, lung, hepatocellular, gastric, liver, bladder, urinary tract, thyroid, renal, carcinoma, melanoma, brain, non-small cell lung, squamous cell of the head and neck, endometrial, multiple myeloma, rectal, and esophageal tumor cells.~~

~~316. The method of of any one of claims 1 to 314, wherein the tumor cell is selected from prostate, lung, pancreatic, breast, ovarian or bone tumor cells.~~

~~317. The method of of any one of claims 1 to 316, wherein oligomer compound preferentially binds to or has affinity for one or both of THOC4 and hSSB1.~~

~~318. The method of claim 318, wherein the THOC4 and SSB1 proteins are human.~~

~~319. The method of claim 318 or claim 319, wherein the oligomer compound binds to THOC4 with a K_D of about 50 nM or less in an aqueous solution containing 10 nM Tris-HCl (pH8.0) and 100 mM NaCl at 37° C.~~

~~320. The method of claim 318 or claim 319, wherein the oligomer compound binds to SSB1 (*e.g.*, hSSB1) with a K_D of about 3 nM or less in an aqueous solution containing 10 nM Tris-HCl (pH8.0) and 100 mM NaCl at 37° C.~~

~~321. An oligomer as defined in any one of claims 1 to 314.~~

5. The nucleic acid oligomer of any one of claims 1 to 4, wherein the nucleobase sequence of the nucleic acid oligomer is as set forth in SEQ ID NO: 1.

~~322.~~6. A pharmaceutical composition ~~that~~ comprising~~es~~ ~~an~~ the nucleic acid oligomer ~~as defined in~~of any one of claims 1 to ~~314~~5, and a pharmaceutically acceptable carrier.

7. Use of the nucleic acid oligomer of any one of claims 1 to 5 or the composition of claim 6 in the manufacture of a medicament for inhibiting proliferation, survival or viability of a tumor cell.

8. The nucleic acid oligomer of any one of claims 1 to 5 or the composition of claim 6 for use in inhibiting proliferation, survival or viability of a tumor cell.

9. The use of claim 7 or the nucleic acid oligomer for use according to claim 8, wherein the tumor cell is selected from breast, prostate, ovarian, cervical, pancreatic, colorectal, lung, hepatocellular, gastric, liver, bladder, urinary tract, thyroid, renal, carcinoma, melanoma, brain, non-small cell lung, squamous cell of the head and neck, endometrial, multiple myeloma, rectal, and esophageal tumor cells.

10. The use of claim 7 or the nucleic acid oligomer for use according to claim 8, wherein the tumor cell is selected from prostate, lung, non-small cell lung, breast, cervical and bone tumor cells.

~~323.~~11. Use of the nucleic acid oligomer of any one of claims 1 to 5 or the composition of claim 6 in the manufacture of a medicament ~~A method~~ for treating or preventing a cancer in a subject~~, the method comprising administering to the subject an effective amount of an oligomer as defined in any one of claims 1 to 314~~.

12. The nucleic acid oligomer of any one of claims 1 to 5 or the composition of claim 6 for use in treating or preventing a cancer in a subject.

~~324.~~13. The ~~method~~ use of claim ~~323~~11, or the nucleic acid oligomer for use according to claim 12, wherein the cancer is a solid tumor or blood borne tumor.

14. The use of claim 11 or claim 13, or the nucleic acid oligomer for use according to claim 12 or claim 13, wherein the cancer is a primary cancer or a metastatic cancer.

~~325. The method of claim 323 or claim 324, wherein the cancer is selected from cancers of skin, tissues, organs, bone, cartilage, blood, and vessels.~~

~~326.~~15. The use of any one of claims 11, 13 and 14, or the nucleic acid oligomer for use according to any one of claims 12 to 14~~method of any one of claims 323 to 325~~, wherein the cancer is selected from breast cancer, prostate cancer, ovarian cancer, cervical cancer, pancreatic cancer, colorectal cancer, lung cancer, hepatocellular cancer, gastric cancer, liver cancer, bladder cancer, cancer of the urinary tract, thyroid cancer, renal cancer, carcinoma, melanoma, brain cancer, non-small cell lung cancer, squamous cell cancer of the head and neck, endometrial cancer, multiple myeloma, rectal cancer, and esophageal cancer

~~327.~~16. The use of any one of claims 11, 13 and 14, or the nucleic acid oligomer for use according to any one of claims 12 to 14~~method of any one of claims 323 to 326~~, wherein the cancer is selected from prostate cancer, lung cancer, ~~pancreatic,~~ breast cancer, ~~ovarian~~ cervical cancer and bone cancer.

~~328. The method of any one of claims 323 to 327, wherein the cancer is a primary cancer.~~

~~329. The method of any one of claims 323 to 327, wherein the cancer is a metastatic cancer.~~

~~330.~~17. The use of any one of claims 11 and 13 to 16, or the nucleic acid oligomer for use according to any one of claims 12 to 16, wherein the nucleic acid oligomer is administered concurrently~~method of any one of claims 323 to 329, further comprising concurrently administering~~ with ~~the oligomer~~ at least one ancillary agent selected from an anti-infective agent, a chemotherapeutic agent and an immunotherapeutic agent~~for treating or preventing the cancer~~.

~~331.~~18. The use or nucleic acid oligomer for use according to claim 17~~method of claim 330~~, wherein the anti-infective agent is selected from antibiotics, amebicides, antifungals, antiprotozoals, antimalarials, antituberculotics and antivirals~~ancillary agent is selected from an anti-infective agent, a chemotherapeutic agent, and an immunotherapeutic agent~~.

19. The use or nucleic acid oligomer for use according to claim 17, wherein the chemotherapeutic agent is selected from antiproliferative and/or antineoplastic drugs, cytostatic agents, agents that inhibit cancer cell invasion, inhibitors of growth factor function, anti-angiogenic agents and vascular damaging agents.

20. The use or nucleic acid oligomer for use according to claim 17, wherein the immunotherapeutic agent is selected from cytokines, cytokine-expressing cells and antibodies.