WHAT CLAIMED IS:

~~1. An anti-tumor composition, comprising:~~

~~(A) *Akkermansia muciniphila*; and~~

~~(B) an immune checkpoint inhibitor.~~

~~2. The anti-tumor composition of claim 1, wherein the *Akkermansia muciniphila* is *Akkermansiamuciniphila* SSYD-3 with the deposit number of CGMCC No. 14764.~~

~~3. The anti-tumor composition of claim 1 or 2, wherein the *Akkermansia muciniphila* is combined with other bacteria (such as *Bifidobacterium*, *Lactobacillus*, *Clostridium*, *Enterococcus faecium*, *Prevotella stercorea*, *Ruminococcus*).~~

~~4. The anti-tumor composition of claim 1 or 2, wherein the *Akkermansia muciniphila* and the immune checkpoint inhibitor are mixed together to prepare a single preparation, or physically separated and used separately.~~

~~5. The anti-tumor composition of claim 1 or 2, wherein the *Akkermansia muciniphila* is administrated orally.~~

~~6. The anti-tumor composition of claim 1 or 2, further comprising antibiotics.~~

~~7. The anti-tumor composition of claim 1 or 2, wherein the tumor is selected from colon cancer, lung cancer, gastric cancer, liver cancer, head and neck cancer, cervical cancer, breast cancer, lymphoma, breast cancer, melanoma, kidney cancer or urothelial cancer.~~

~~8.~~1. Use of *Akkermansiamuciniphila* SSYD-3, in combination with an immune checkpoint inhibitor~~*Akkermansia muciniphila*~~ in the manufacture of a medicament for treating tumors in a subject.

~~9. The use of claim 8, wherein the *Akkermansia muciniphila* is used in combination with an immune checkpoint inhibitor.~~

2. ~~The use of claim 8 or 9, wherein the u~~Use of *Akkermansiamuciniphila* SSYD-3 inhibitor in the manufacture of a medicament for improving~~is to improve~~ the effect of an~~the~~ immune checkpoint inhibitor in suppressing tumors in a subject~~, preferably, the tumors are selected from colon cancer, lung cancer, gastric cancer, liver cancer, head and neck~~

~~cancer, cervical cancer, breast cancer, lymphoma, breast cancer, melanoma, kidney cancer or urothelial cancer~~.

3. The use of claim 1 or 2, further comprises to be administered to the subject other bacteria (such as *Bifidobacterium*, *Lactobacillus*, *Clostridium*, *Enterococcus faecium*, *Prevotella stercorea*, *or Ruminococcus*).

4. The use of claim 1 or 2, wherein the *Akkermansiamuciniphila* SSYD-3 is to be administered orally.

5. The use of claim 4, wherein the *Akkermansiamuciniphila* SSYD-3 is in the form of oral liquid, tablet, capsule, or lyophilized powder.

6. The use of claim 1 or 2, wherein *Akkermansiamuciniphila* SSYD-3 is to be administered at a dose range of 10^4-10^{13} CFU/person/day in the medicament.

7. The use of claim 1 or 2, wherein the immune checkpoint inhibitor is PD-1 inhibitor, PD-L1 inhibitor or CTLA-4 inhibitor.

8. The use of claim 1 or 2, wherein the immune checkpoint inhibitor is Keytruda, Tecentriq, Nivolumab, Avelumab or Toripalimab.

9. The use of claim 1 or 2, wherein the tumor is selected from colon cancer, lung cancer, gastric cancer, liver cancer, head and neck cancer, cervical cancer, breast cancer, lymphoma, melanoma, kidney cancer or urothelial cancer.

10. The use of claim 1 or 2, wherein the *Akkermansiamuciniphila* SSYD-3 is to be administered before the immune checkpoint inhibitor.