

Augmentation of NK/T anti-tumor activity

We have developed three immune enhancing agents, **BC-IMA**, **BC-PIV/101** and **BC-PIV/102** that enhance systemic anti-tumor activities of NK cells and CD4/CD8⁺ T cells. BioComo's animal studies demonstrate that one site injection of in situ vaccination from two solid-separated tumors may eradicate both tumor sites.

- ◆ Eradication and reduction seen in both of the locally injected tumors of mice CT26 colon cells or B16 melanoma cells and respective distant non-treated tumors
- ◆ Activation of NK cells and CD4/CD8 positive T cells
- ◆ Potentially versatile for various solid tumors

Example of our experiments

Colon cancer (CT26 cells)

Implant CT26 cells at two sites of the abdomen of BALB/c



Tumor size 5-7mm in diameter



Inject agents into the tumor at one site (arrow)



PBS injection



BC-IMA+BC-PIV/101



BC-IMA+BC-PIV/101 + anti-asialo GM-1 Ab



BC-IMA+BC-PIV/101 +anti-CD4/CD8 Ab

Test agents (BC-IMA and BC-PIV/101) were injected into one site as in situ vaccination when the size reached to 5-7mm in diameter

Effects after ten days from treatment

A : PBS injection
injection site and remote site : increase in tumor size

B : **BC-IMA+BC-PIV/101 injection**
injection site and remote site : **decrease in size and thereafter shrunk or eradicated**

C : BC-IMA+BC-PIV/101 + anti-asialo GM-1 antibody (NK cell inhibitor)
injection site and remote site : increase in size

D : BC-IMA+BC-PIV/101 + anti-CD4/CD8 antibody
injection site and remote site : increase in size and many metastasis in abdominal cavity observed

NK細胞/T細胞活性化による固形がん治療剤 BioComo

NK細胞及びCD4陽性/CD8陽性T細胞を活性化し、複数の固形がんの1ヶ所に投与により非投与部位のがんも退縮可能な新規な抗腫瘍免疫剤（BC-IMA、BC-PIV/101及びBC-PIV/102）の開発に成功

- ◆ マウス大腸がん（CT26）及びメラノーマ（B16）退縮・縮小
- ◆ NK細胞及びCD4陽性/CD8陽性T細胞活性化による抗腫瘍免疫効果
- ◆ 多くの固形がんへの対応が可能

効果を示す図

大腸がん（CT26細胞）

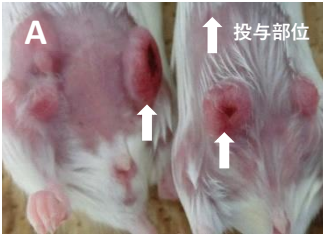
BALB/cに CT26大腸がん細胞を2か所に接種



がん組織長径5-7mmに成長



腫瘍への直接投与（矢印）



PBS投与



BC-IMA+BC-PIV/101

5-7mmに成長したCT26腫瘍の2か所の内1ヵ所に試料（BC-IMA及びBC-PIV/101）を投与

10日後の腫瘍変化

A : PBS投与

投与及び遠隔がん10日以降も増大

B : BC-IMA+BC-PIV/101

投与及び遠隔がんは縮小し、10日以降退縮・縮小

C : BC-IMA+BC-PIV/101 + 抗アシアロGM1抗体（NK細胞阻害抗体）

腫瘍縮小効果はなし（倫理上飼育終了）

D : BC-IMA+BC-PIV/101 + 抗CD4/CD8抗体

腫瘍縮小効果はなし、CT26腹腔内転移多数



BC-IMA+BC-PIV/101 + 抗アシアロGM1抗体



BC-IMA+BC-PIV/101 + 抗CD4/CD8抗体