

## BALB/c-hCD3EDG/hBCMA

**Strain Name:** BALB/cJGpt-Cd3e, d,  $g^{tm1(hCD3E, D, G)}Tnfrsf17^{em1Cin(hTNFRSF17)}$ /Gpt

**Strain Type:** Targeted

**Strain Number:** T059045

**Background:** BALB/cJGpt

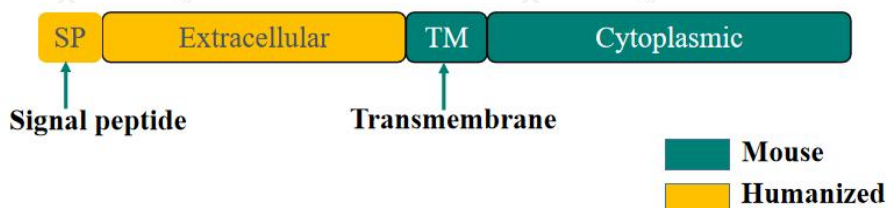
### Description

B cell maturation antigen (BCMA) is a transmembrane glycoprotein belonging to the tumor necrosis factor (TNF) receptor superfamily, also known as TNFRSF17 or CD269 [1]. BCMA is preferentially expressed by mature B lymphocytes, and its overexpression and activation are associated with MM in preclinical models and humans. Thus BCMA has emerged as a promising target for MM therapies.

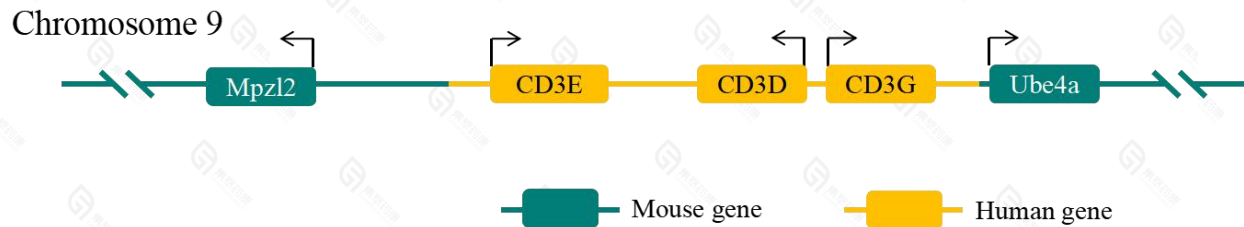
The first bispecific B-cell maturation antigen (BCMA)-directed CD3 T-cell engager, TECVAYLI (teclistamab-cqyv), has been approved for use in adult patients with relapsed or refractory multiple myeloma who have received at least four prior lines of therapy, including a proteasome inhibitor, an immunomodulatory agent, and an anti-CD38 monoclonal antibody.

The BALB/c- hCD3EDG/hBCMA was made by crossing the BALB/c-hCD3EDG with BALB/c-hBCMA by Gempharmatech, and the mice successfully expressed human BCMA and CD3E/D/G with a normal immune system. The CD3EDG/BCMA humanized mice are suitable models for preclinical studies of bispecific antibodies and related immunotherapies.

### Strategy



**Fig.1 Schematic diagrams of BCMA humanization strategy.**



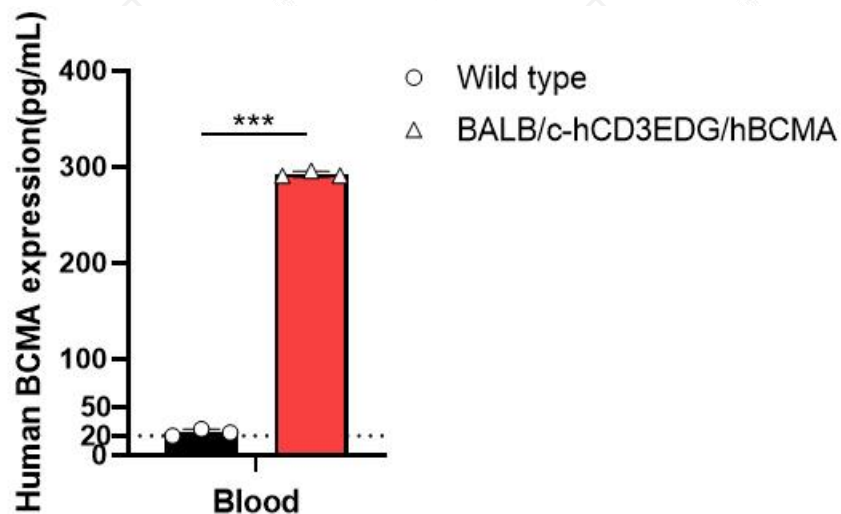
**Fig.2 Schematic diagrams of CD3E/D/G humanization strategy.**

### Applications

1. Efficacy evaluation of bispecific antibody against human BCMA/CD3 targets
2. Anticancer drug research and development

### Data support

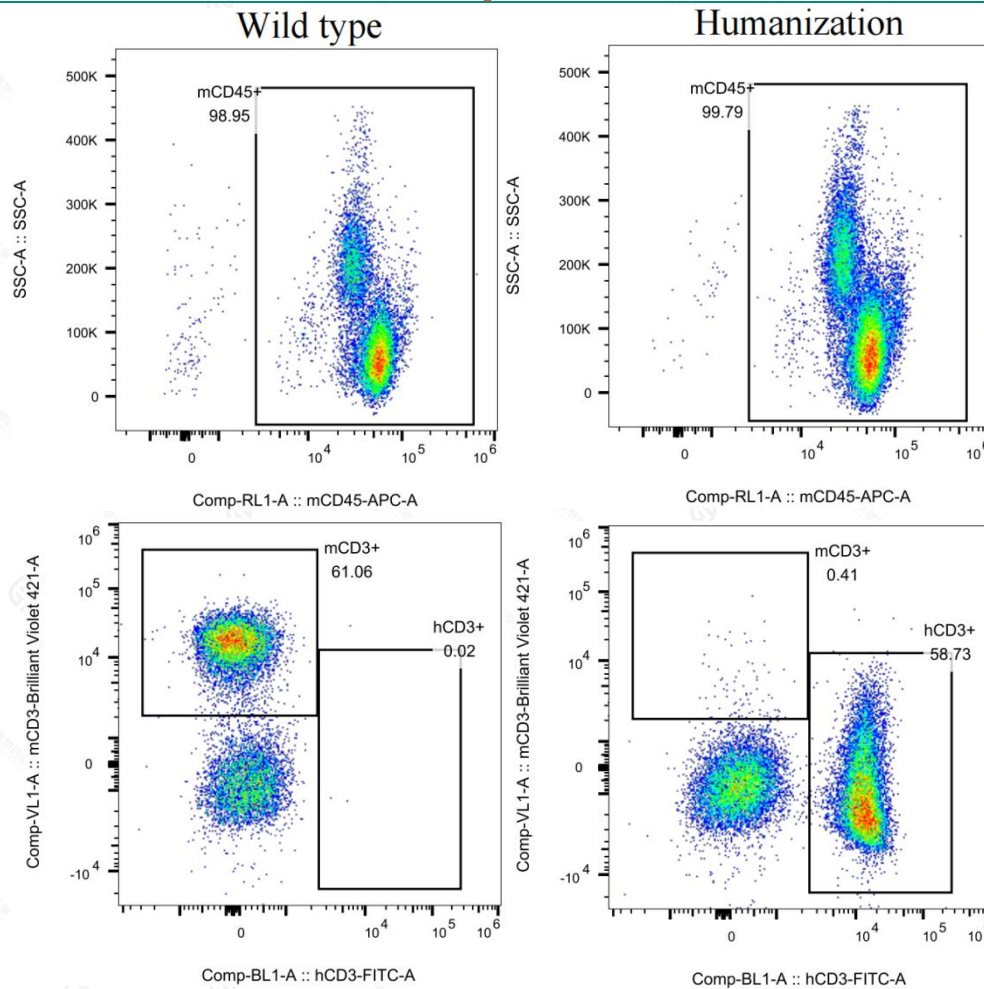
#### 1. Detection of hBCMA expression



**Fig 2. Detection of BCMA expression in BALB/c-hCD3EDG/hBCMA mice.**

The human BCMA expression in the serum was detected by Elisa. BALB/c-hCD3EDG/hBCMA mice (hCD3 homozygote /hBCMA heterozygote) expressed human BCMA in serum with the content of 292.656 pg/mL.

#### 2. Detection of hCD3 expression



**Fig 3. Detection of hCD3 expression in BALB/c-hCD3EDG/hBCMA mice.**

BALB/c-hCD3EDG/hBCMA mice (hCD3 homozygote /hBCMA heterozygote) expressed human CD3E in T cells, and mouse CD3E expression could not be detected. Top panel: mCD45 ratio in live cells. Bottom panel: mCD3/hCD3 in CD45.

## References

1. Labi Y, Gras M P, Carbonnel F, et al. A new gene, BCM, on chromosome 16 is fused to the interleukin 2 gene by a t(4;16)(q26;p13) translocation in a malignant T cell lymphoma.[J]. Embo Journal, 1992, 11(11):3897-3904.