Heavy chain variable region (CDR is underlined)

Germline IGHV 1-69	QVQLVQSGAEVKKPGSSVKVSCKASGGTFSSYAISWVRQAPGQGLEWMGRIIPILGIANYA QKFQGRVTITADKSTSTAYMELSSLRSEDTAVYYCAR---GYSYGNFDYWGQGTLVTVSS
YN-002VH	QVQLVQSGAEV**R**KPGSSVKVSCKASGGTFSSYAISWVRQAPGQGLEWMGRIIPILGIANYA QKFQGRVTITADKSTSTAYMELSSLRSEDTAVYYCAR**TMD**GYSYGNFDYWGQGTLVTVSS
YN-003VH	QVQLVQSGAEVKKPGSSVKVSCKASGGTFSSYAISWVRQAPGQGLEWMGRIIPILGIANYA QKFQGRVTITADKSTSTAYMELSSLRSEDTAVYYCAR**TMD**GYSYGNFDYWGQGTLVTVSS

Light chain variable region (CDR is underlined)

Germline IGLV2-14	QSALTQPASVSGSPGQSITISCTGTSSDVGGYNYVSWYQQHPGKAPKLMIYEVSNRPSGV SNRFSGSKSGNTASLTISGLQAEDEADYYCSSYTSS----VFGGGTKLTVLG
YN-002VL	QSALTQPASVSGSPGQSITISCTGTSSDVGGYNYVSWYQQHPGKAPKL**L**IY**GN**SNRPSGV **PD**RFSGSKSG**TS**ASL**AI**TGLQAEDEADYYC**Q**SY**D**SS**LSGS**VFGGGTKLTVLG
YN-003VL	QSALTQPASVSGSPGQSITISCTGTSSDVGGYNYVSWYQQHPGKAPKLMIY**GN**SNRPSGV SNRFSGSKSGNTASLTISGLQAEDEADYYC**Q**SY**D**SS**LSGS**VFGGGTKLTVLG

Fig. 1

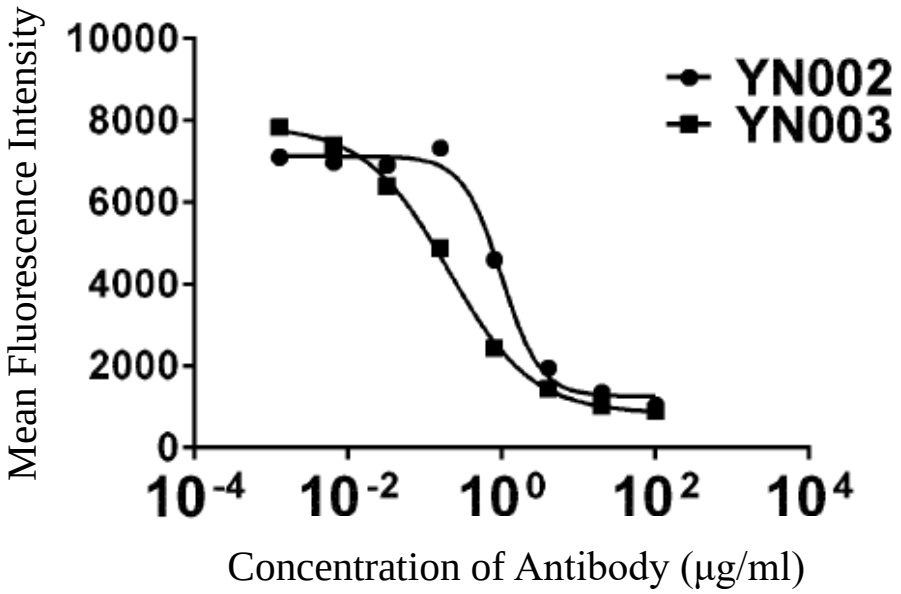

Fig. 2

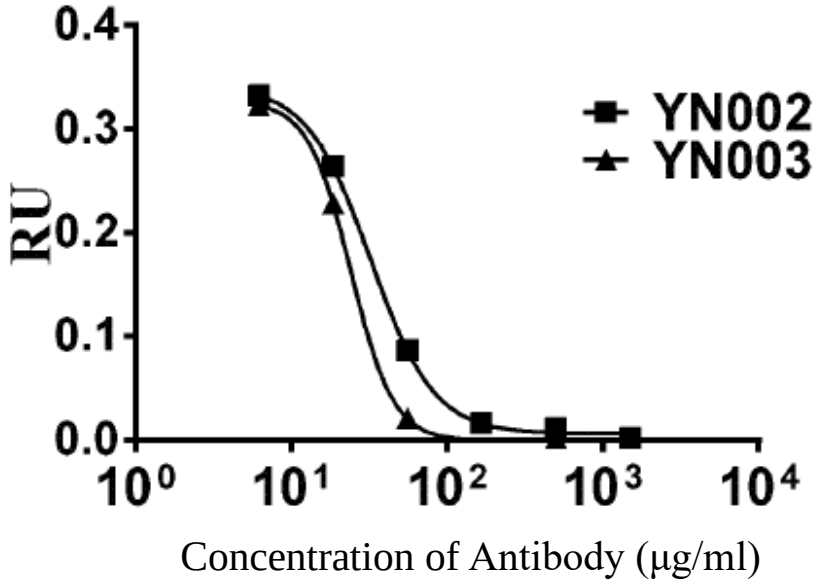
0.4
0.3
0.2
0.1
0.0
RU
YN002
YN003
10⁰
10¹
10²
10³
10⁴
Concentration of Antibody (μg/ml)

Fig. 3

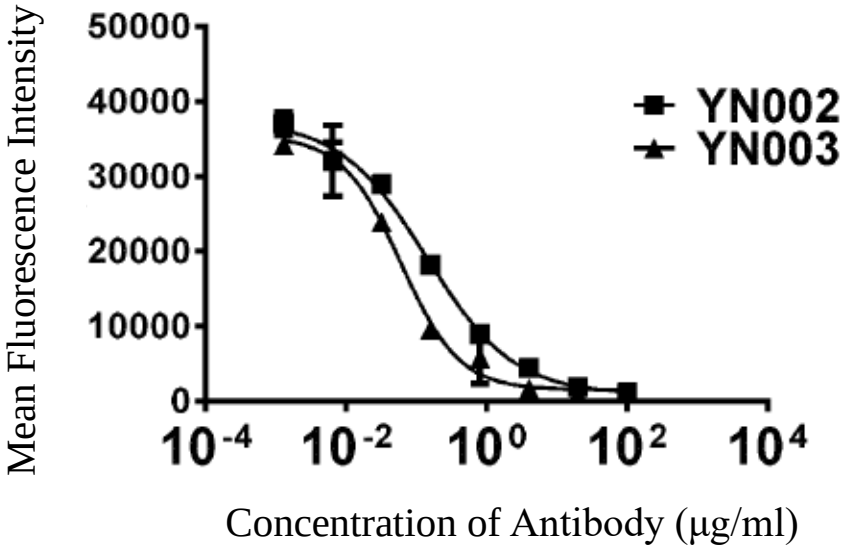
50000
40000
30000
20000
10000
0
Mean Fluorescence Intensity
YN002
YN003
10⁻⁴
10⁻²
10⁰
10²
10⁴
Concentration of Antibody (μg/ml)

Fig. 4

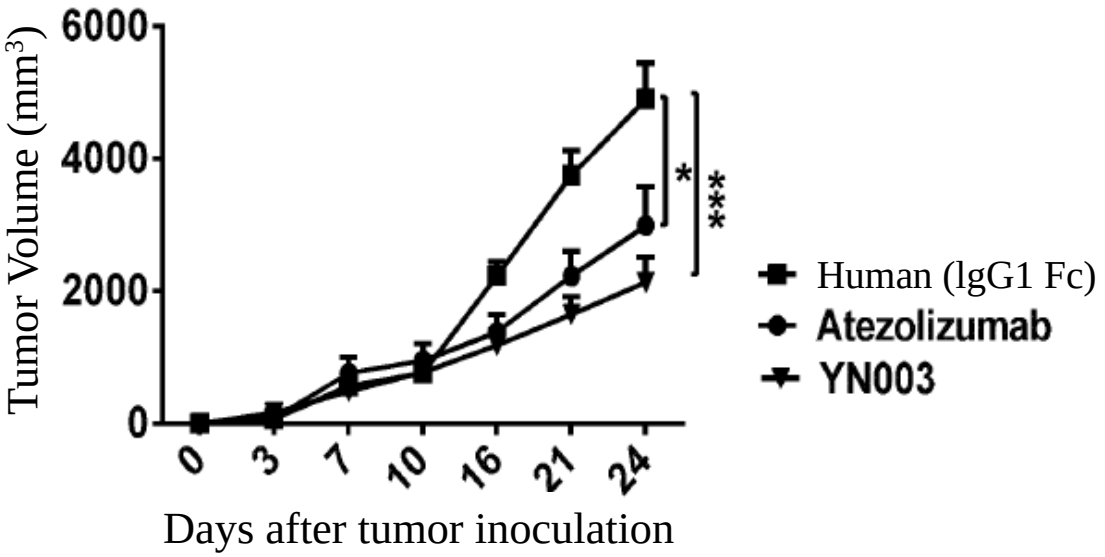

Fig. 5

Heavy chain variable region (CDR is underlined)

Germline IGHV 3-23	QVQLVESGGGLVQPGGSLRLSCAASGFTFSSYAMSWVRQAPGKGLEWVSAISGSGGSTYYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCAKTNWG--DAFDIWGQGTMVTVSS
YN-005VH	QVQLV**Q**SGGGLVQPGGSLRLSCAASGFTFSSYAMSWVRQAPGKGLEWVSAISGSGGSTYYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCAKTNWG**PS**DAFDIWGQGTMVTVSS
YN-006VH	QVQLVESGGGLVQPGGSLRLSCAASGFTFSSYAMSWVRQAPGKGLEWVSAISGSGGSTYYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCAKTNWG**PS**DAFDIWGQGTMVTVSS

Light chain variable region (CDR is underlined)

Germline IGLV1-44	QSVLTQPPSASGTPGQRVTISCSGSSSNIGSNTVNWYQQLPGTAPKLLIYSNNQRPSGVPDR FSGSKSGTSASLAISGLQSEDEADYYCAAWDDSLNGYVFGTGTKLTVLG
YN-005VL	QSVLTQPPSASGTPGQRVTISCSGS**T**S**D**IGS**YS**VNWYQQLPGTAPKLLIYSNNQRPSGVPDR FSGSKSGTSASLAISGLQSEDEADYYCAAWDDSLNGYVFGTGTKLTVLG
YN-006VL	QSVLTQPPSASGTPGQRVTISCSGS**T**S**D**IGS**YS**VNWYQQLPGTAPKLLIYSNNQRPSGVPDR FSGSKSGTSASLAISGLQSEDEADYYCAAWDDSLNGYVFGTGTKLTVLG

Fig. 6

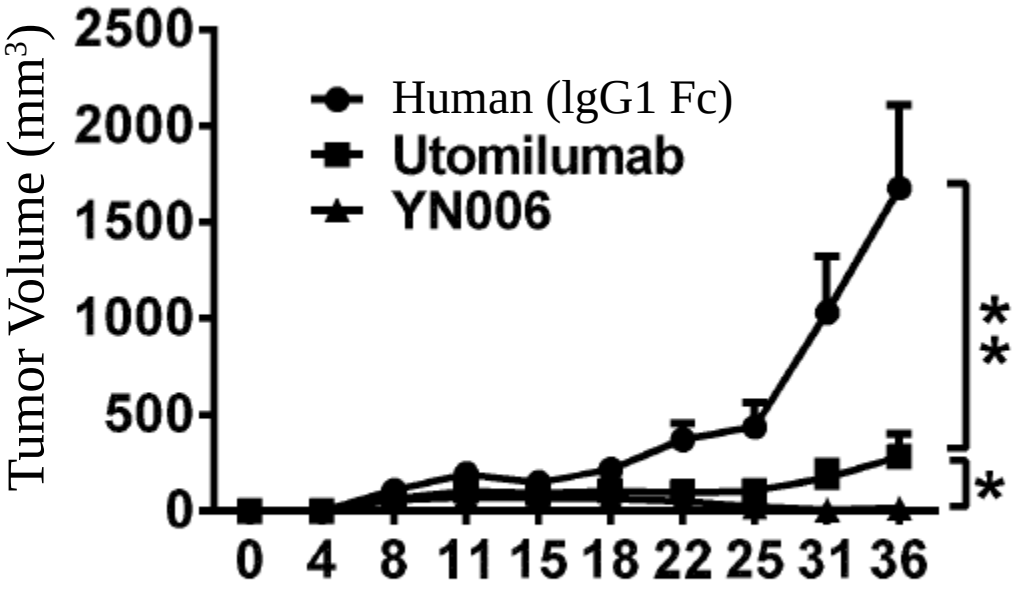
Tumor Volume (mm3)
2500
2000
1500
1000
500
0
Human (lgG1 Fc)
Utomilumab
YN006
**
*
0 4 8 11 15 18 22 25 31 36
Days after tumor inoculation

Fig. 7

Heavy chain variable region (CDR is underlined)

Germline IGHV1-69 QVQLVQSGAEVKKPGSSVKVSCKASGGTFSSYAISWVRQAPGQGLEWMGRIIPILGIANYAQKFQGRVTITADKSTSTAYMELSSLRSEDTAVYYCAR---GYSYGNFDYWGQGTLVTVSS

YN003VH QVQLVQSGAEVKKPGSSVKVSCKAS*GGTFSSYA*ISWVRQAPGQGLEWMGR*IIPILGIANYAQKFQ*GRVTITADKSTSTAYMELSSLRSEDTAVYYCAR*TMDGYSYGNFDY*WGQGTLVTVSS

Light chain variable region (CDR is underlined)

Germline IGLV2-14 QSALTQPASVSGSPGQSITISCTGTSSDVGGYNYVSWYQQHPGKAPKLMIYEVSNRPSGVSNRFSGSKSGNTASLTISGLQAEDEADYYCSSYTSS---VFGGGTKLTVLG

YN003VL QSALTQPASVSGSPGQSITISCT*GTSSDVGGYNYV*SWYQQHPGKAPKLMIY*GN*SNRPSGVSNRFSGSKSGNTASLTISGLQAEDEADYYC*Q*SY*DSSLSGSV*FGGGTKLTVLG

Fig. 8

Heavy chain variable region (CDR is underlined)

Germline IGHV1-69	QVQLVQSGAEVKKPGSSVKVSCKASGGTFSSYAISWVRQAPGQGLEWMGRIIPILGIANYAQKFQGRVTITADKSTSTAYMELSSLRSEDTAVYYCAR---GYSYGNFDYWGQGTLVTVSS
YN003VH	QVQLVQSGAEVKKPGSSVKVSCKASGGTFSSYAISWVRQAPGQGLEWMGRIIPILGIANYAQKFQGRVTITADKSTSTAYMELSSLRSEDTAVYYCARTMDGYSYGNFDYWGQGTLVTVSS
YN035VH	QVQLVQSGAEVKKPGSSVKVSCKASRGPFSTYAISWVRQAPGQGLEWMGRIIPILGIANYAQKFQGRVTITADKSTSTAYMELSSLRSEDTAVYYCARTMEGYGFGNFDYWGQGTLVTVSS
YN036VH	QVQLVQSGAEVKKPGSSVKVSCKASRGPFSTYAISWVRQAPGQGLEWMGRIIPILGIANYAQKFQGRVTITADKSTSTAYMELSSLRSEDTAVYYCARTMGEYSYGNYDYWGQGTLVTVSS
YN037VH	QVQLVQSGAEVKKPGSSVKVSCKASRGPFSTYAISWVRQAPGQGLEWMGRIIPILGIANYAQKFQGRVTITADKSTSTAYMELSSLRSEDTAVYYCARTMGEYSYGNYDYWGQGTLVTVSS
YN038VH	QVQLVQSGAEVKKPGSSVKVSCKASRGPFSTYAISWVRQAPGQGLEWMGRIIPILGIANYAQKFQGRVTITADKSTSTAYMELSSLRSEDTAVYYCARTMGEYSYGNYDYWGQGTLVTVSS
YN039VH	QVQLVQSGAEVKKPGSSVKVSCKASRGPFSTYAISWVRQAPGQGLEWMGRIIPILGIANYAQKFQGRVTITADKSTSTAYMELSSLRSEDTAVYYCARTMGEYSYGNYDYWGQGTLVTVSS

Fig. 9

Germline IGLV2-14 QSALTQPASVSGSPGQSITISCTGTSSDVGGYNYVSWYQQHPGKAPKLMIYEVSNRPSGVSNRFSGSKSGNTASLTISGLQAEDEADYYCSSYTSS----VFGGGTKLTVLG
YN003VL QSALTQPASVSGSPGQSITISCTGTSSDVGGYNYVSWYQQHPGKAPKLMIYGNSNRPSGVSNRFSGSKSGNTASLTISGLQAEDEADYYCQSYDSSLSGSVFGGGTKLTVLG
YN035VL QSALTQPASVSGSPGQSITISCTGTVSEVGGYNEVSWYQQHPGKAPKLMIYGNSNRPSGVSNRFSGSKSGNTASLTISGLQAEDEADYYCQSYDSSLSGTVFGGGTKLTVLG
YN036VL QSALTQPASVSGSPGQSITISCTGTVSEVGGYNEVSWYQQHPGKAPKLMIYGNSNRPSGVSNRFSGSKSGNTASLTISGLQAEDEADYYCQSYDSSLSGTVFGGGTKLTVLG
YN037VL QSALTQPASVSGSPGQSITISCTGTSSSVGGYREVSWYQQHPGKAPKLMIYENSIRPSGVSHRFSGSKSGNTASLTISGLQAEDEADYYCQSYDSSLSGTVFGGGTKLTVLG
YN038VL QSALTQPASVSGSPGQSITISCTGTRSDVGGYNEVSWYQQHPGKAPKLMIYENSIRPSGVSHRFSGSKSGNTASLTISGLQAEDEADYYCQSYDSSLSGTVFGGGTKLTVLG
YN039VL QSALTQPASVSGSPGQSITISCTGTVSDVGGYNEVSWYQQHPGKAPKLMIYENSIRPSGVSHRFSGSKSGNTASLTISGLQAEDEADYYCQSYDSSLSGTVFGGGTKLTVLG

Fig.10

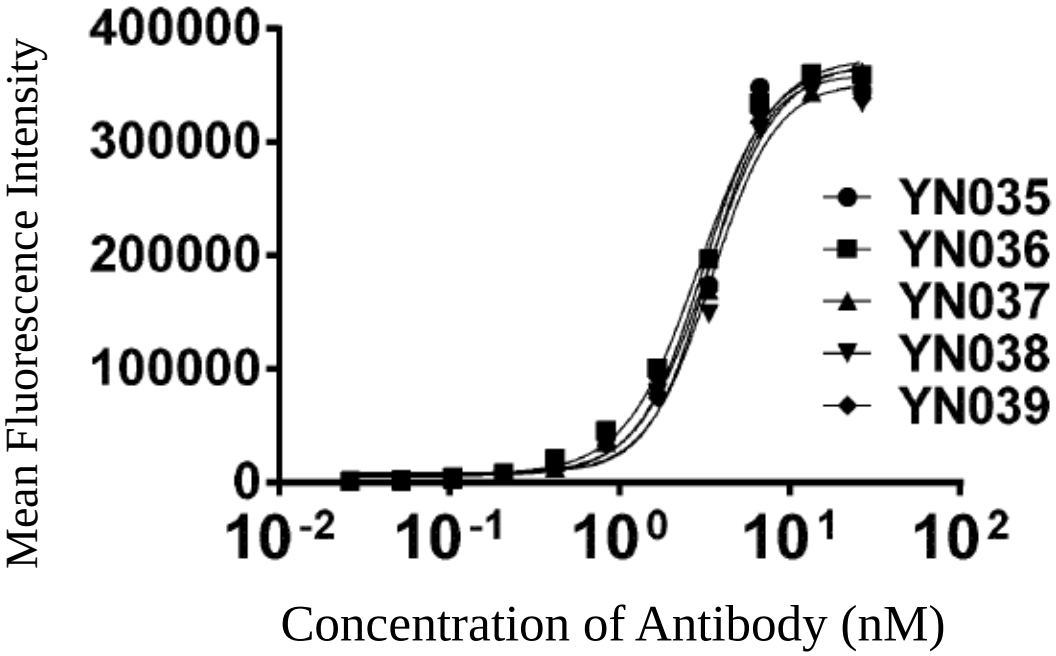

Fig. 11

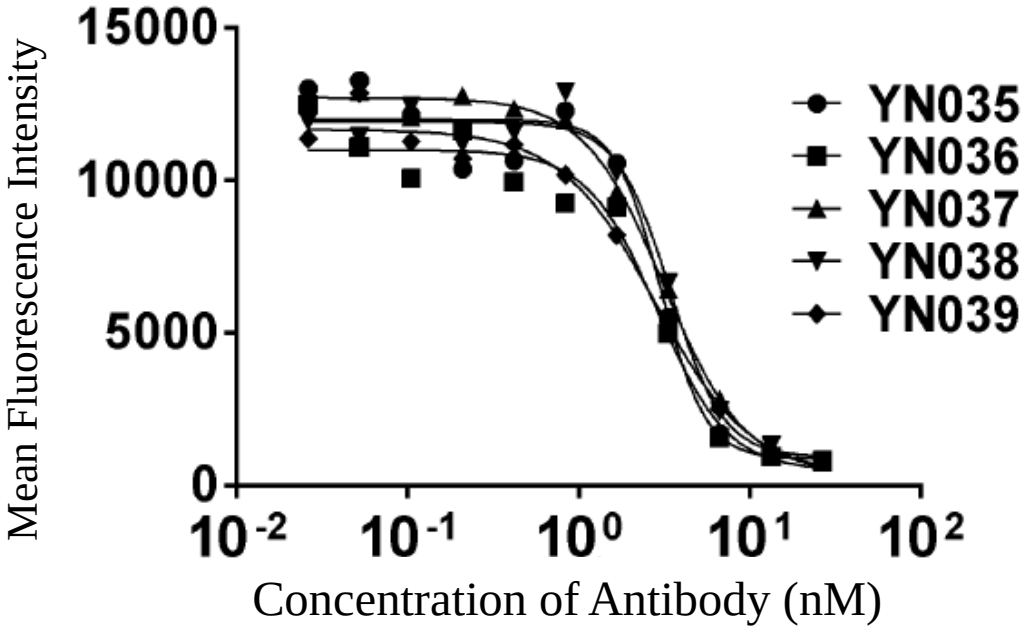

Fig. 12

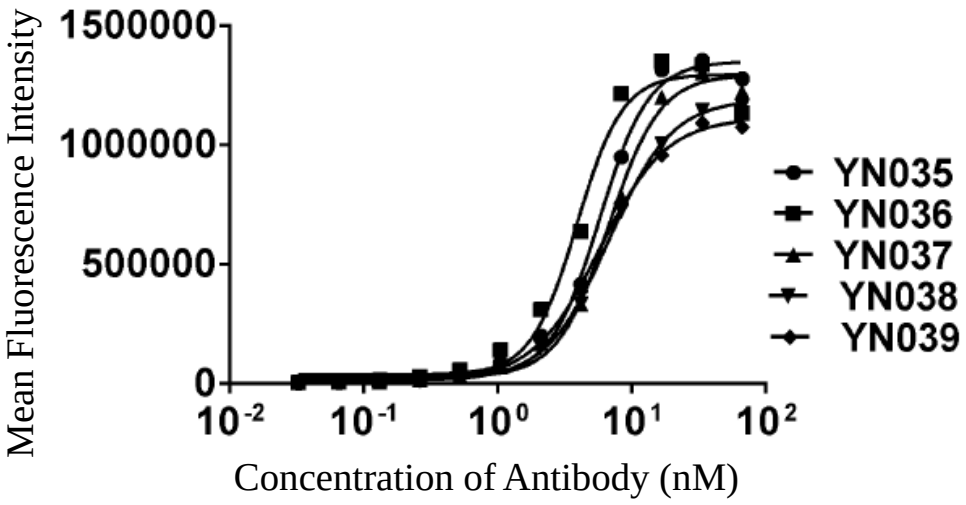
Mean Fluorescence Intensity
1500000
1000000
500000
0
10-2
10-1
100
101
102
Concentration of Antibody (nM)
YN035
YN036
YN037
YN038
YN039

Fig. 13

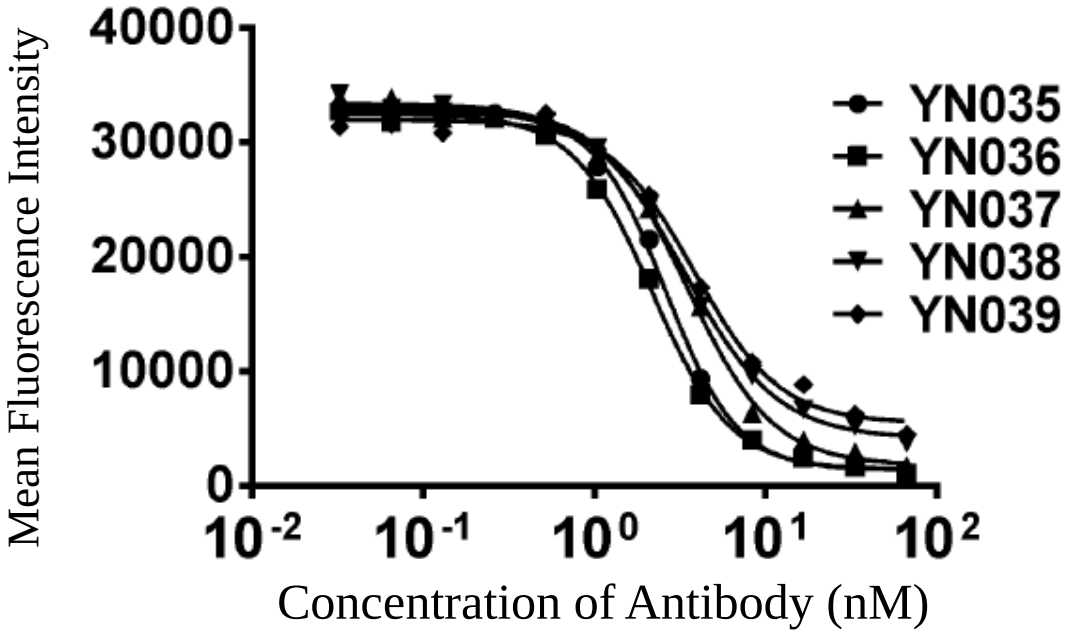
Mean Fluorescence Intensity
40000
30000
20000
10000
0
10-2
10-1
100
101
102
Concentration of Antibody (nM)
YN035
YN036
YN037
YN038
YN039

Fig. 14

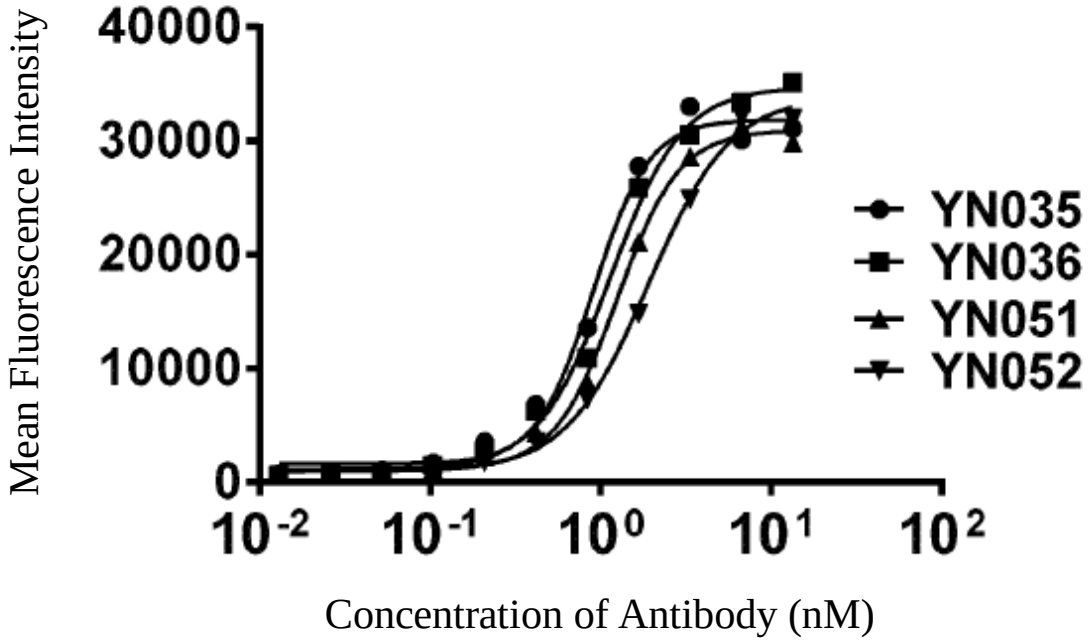
Mean Fluorescence Intensity
40000
30000
20000
10000
0
10-2
10-1
100
101
102
YN035
YN036
YN051
YN052
Concentration of Antibody (nM)

Fig. 15

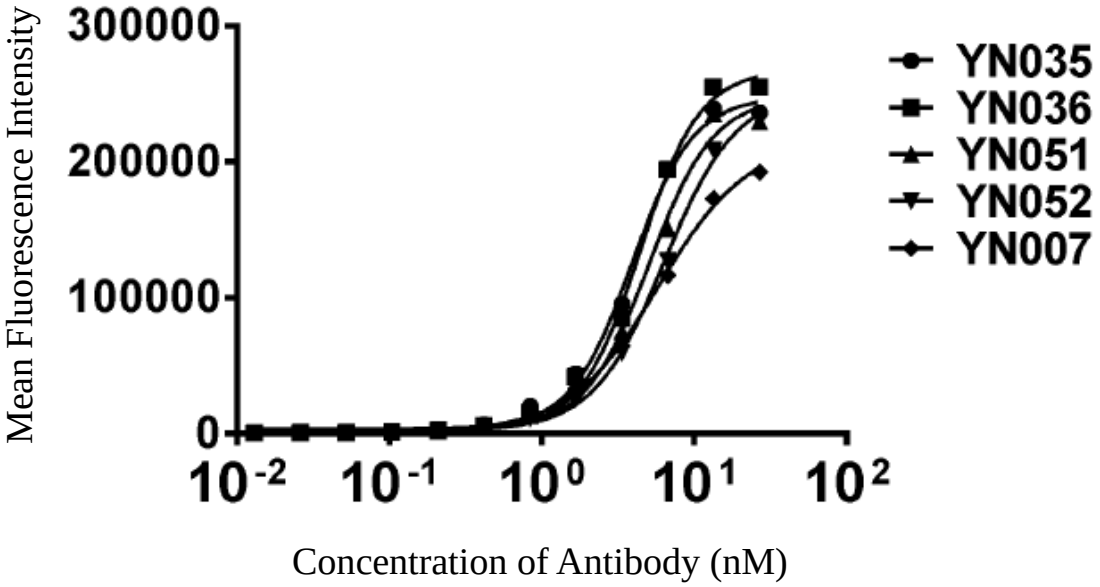
Mean Fluorescence Intensity
300000
200000
100000
0
10-2
10-1
100
101
102
YN035
YN036
YN051
YN052
YN007
Concentration of Antibody (nM)

Fig. 16

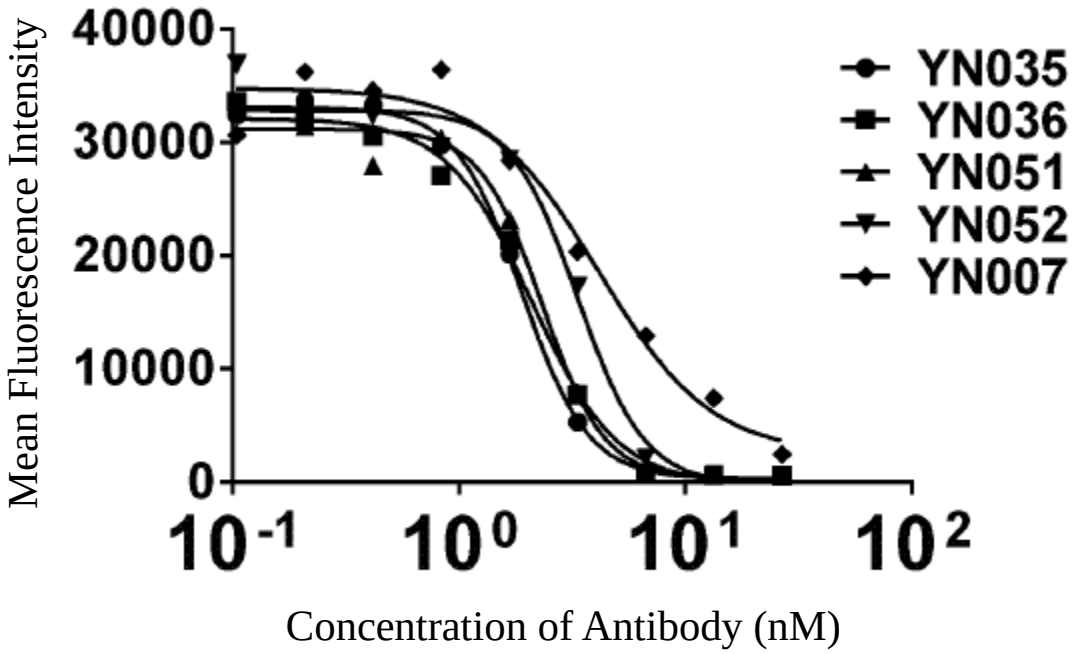
Mean Fluorescence Intensity
40000
30000
20000
10000
0
10-1
100
101
102
YN035
YN036
YN051
YN052
YN007
Concentration of Antibody (nM)

Fig. 17

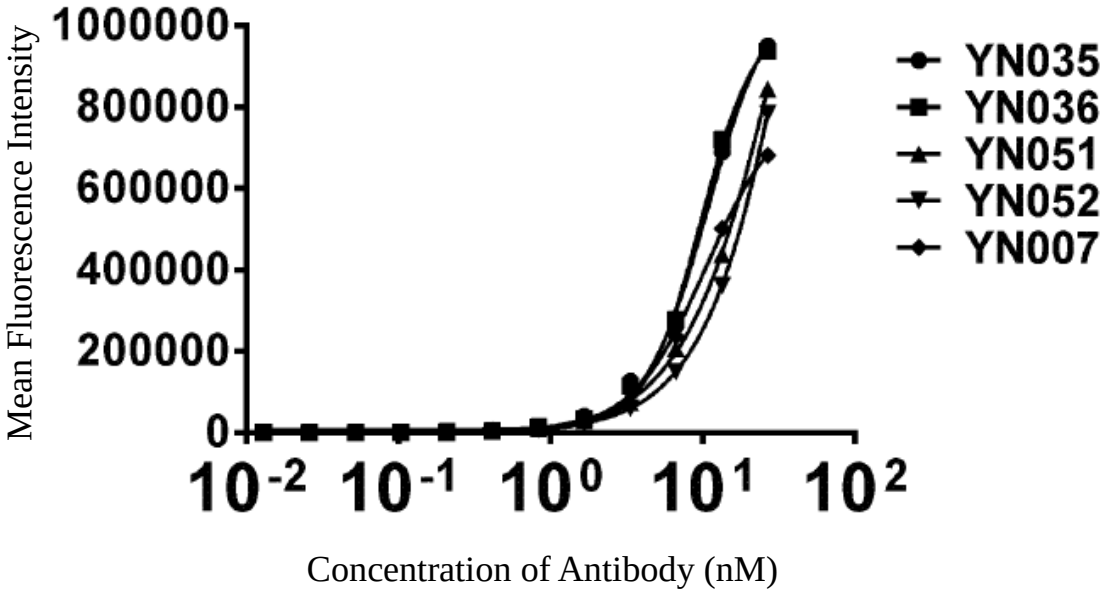
Mean Fluorescence Intensity
1000000
800000
600000
400000
200000
0
10-2
10-1
100
101
102
YN035
YN036
YN051
YN052
YN007
Concentration of Antibody (nM)

Fig.18

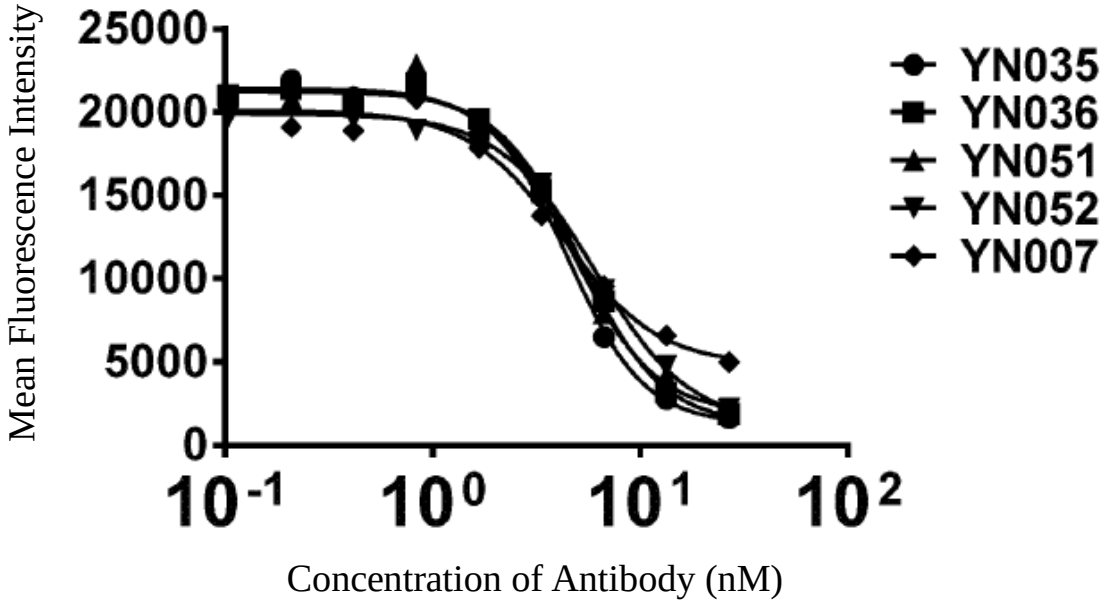
Mean Fluorescence Intensity
25000
20000
15000
10000
5000
0
10-1
100
101
102
YN035
YN036
YN051
YN052
YN007
Concentration of Antibody (nM)

Fig. 19

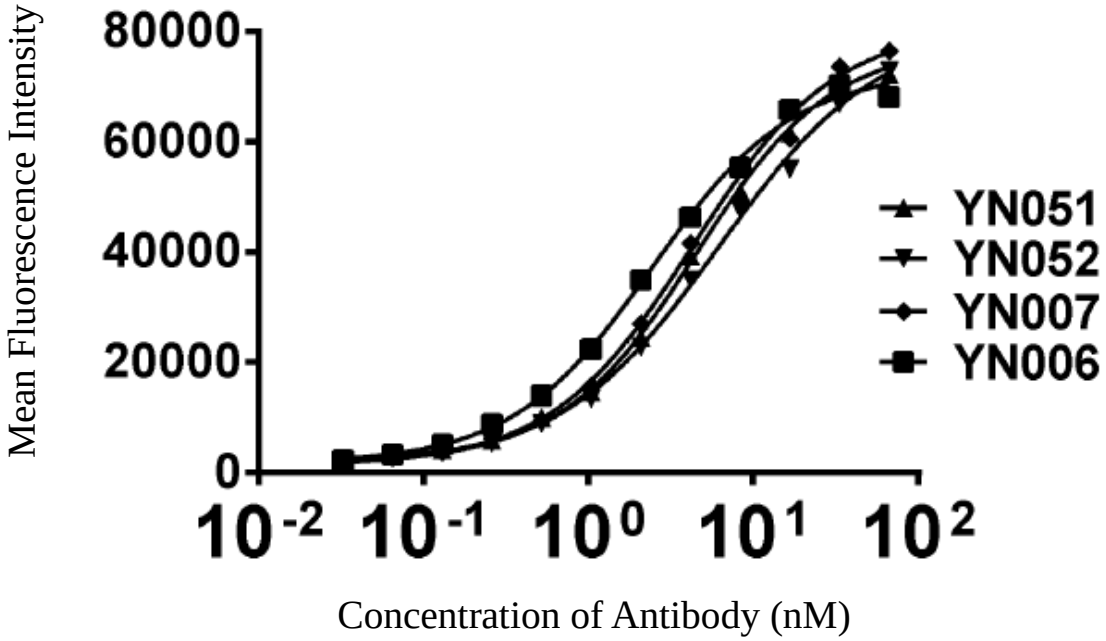
Mean Fluorescence Intensity
80000
60000
40000
20000
0
10-2
10-1
100
101
102
YN051
YN052
YN007
YN006
Concentration of Antibody (nM)

Fig. 20

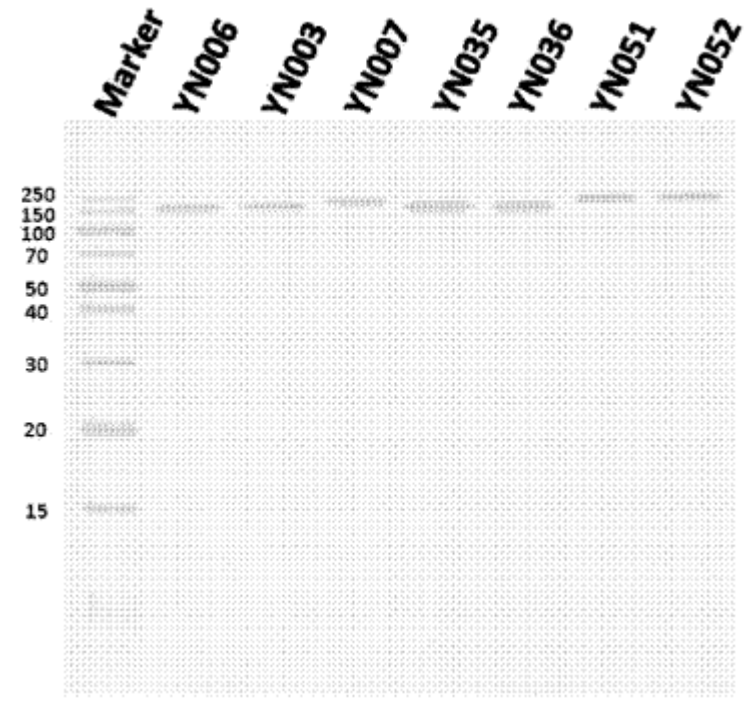

Fig.21a

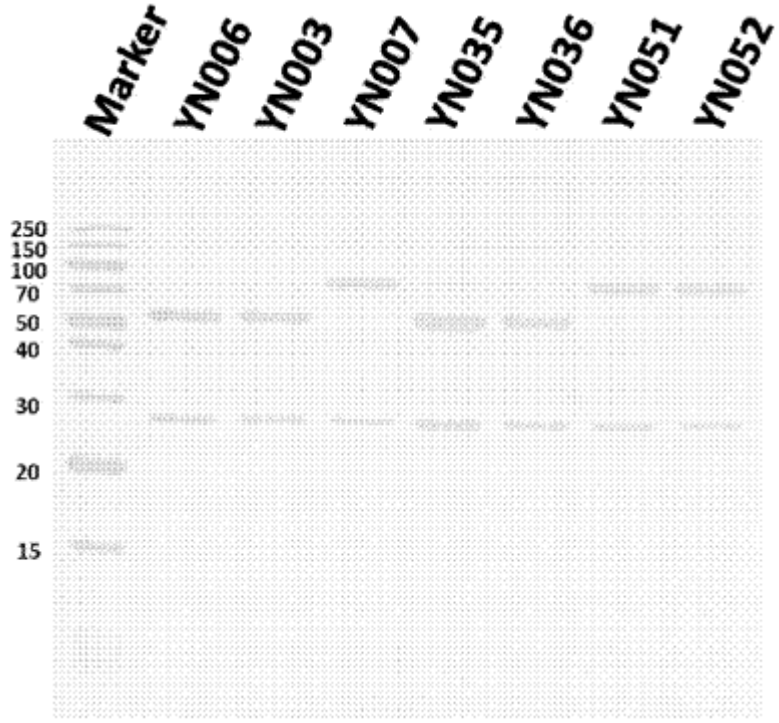

Fig.21b

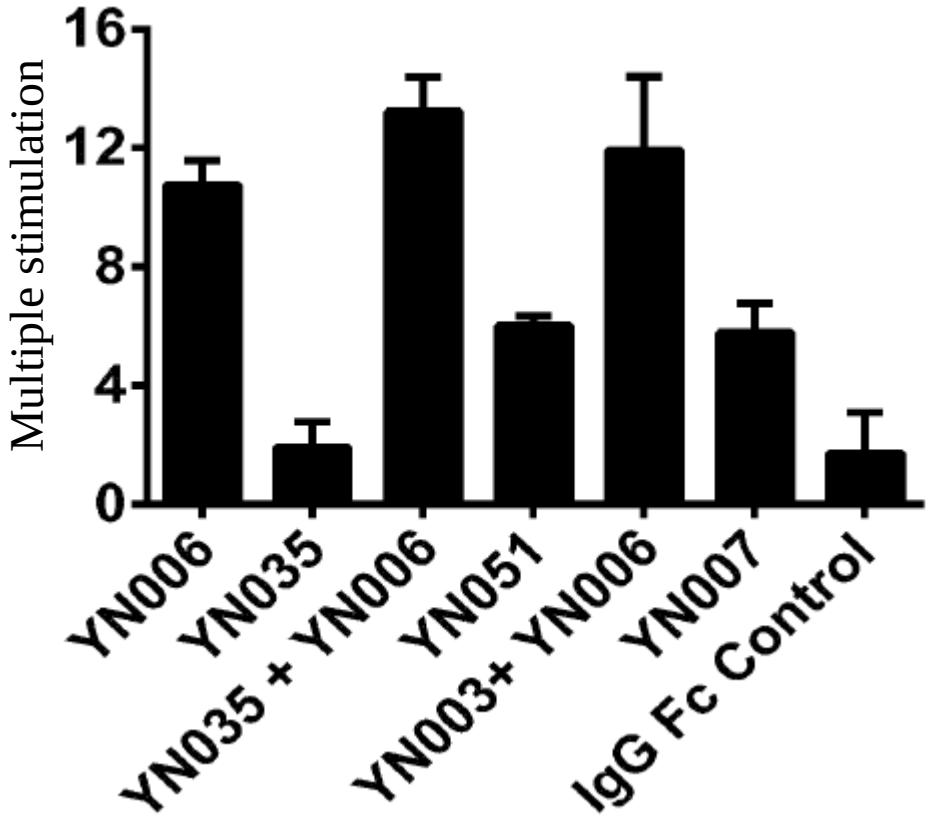
Multiple stimulation
16
12
8
4
0
YN006
YN035
YN035 + YN006
YN051
YN003+ YN006
YN007
IgG Fc Control

Fig. 22

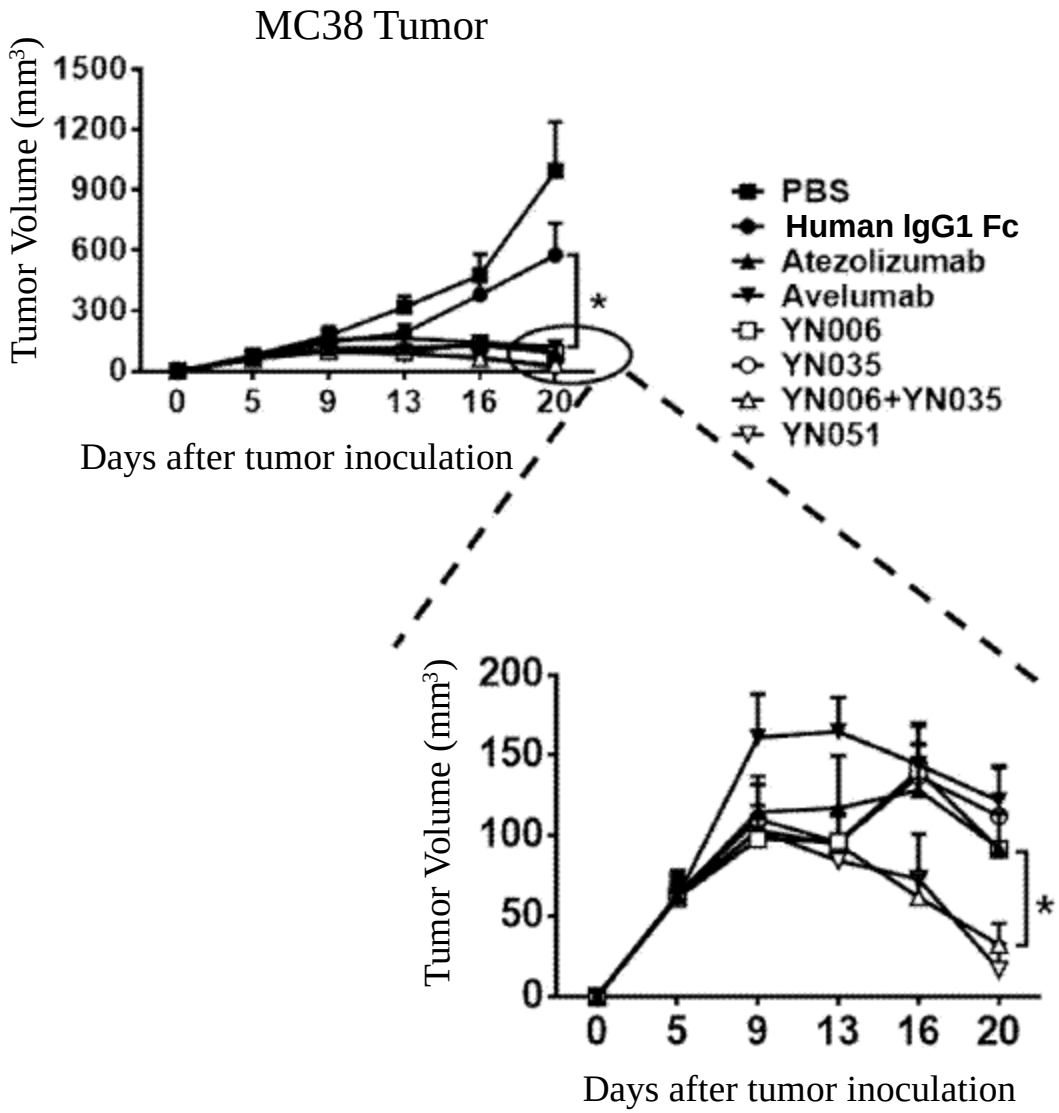
MC38 Tumor
Tumor Volume (mm3)
1500
1200
900
600
300
0
0
5
9
13
16
20
Days after tumor inoculation
*
PBS
Human IgG1 Fc
Atezolizumab
Avelumab
YN006
YN035
YN006+YN035
YN051
Tumor Volume (mm3)
200
150
100
50
0
0
5
9
13
16
20
Days after tumor inoculation
*

Fig. 23