Supplementary Figure S1. Teclistamab induced cytotoxicity in various MM cell lines and BCMA expression.

(A) Cytotoxicity of various $BCMA^+$ MM cell lines in the presence of teclistamab and healthy T-cells incubated for 48 hours. BCMA receptor density was measured using the QuantiBRITE kit. EC_{50} values are plotted on x-axis and cell line on y-axis. (B-C) The Affymetrix GeneChip CEL files were downloaded from the NCBI Gene Expression Omnibus (GEO, http://www.ncbi.nlm.nih.gov/geo/). Two data sets (B) Agnelli [GSE16122][1] and (C) Chng [GSE6477][2]) were evaluated and the raw data was processed and normalized independently using the robust multichip averaging method in the Affymetrix Bioconductor R software package.[3] (D) Percentage of plasma cells in primary frozen BM MNCs from healthy (n=10) or MM patients (n=37) as detected by FACS. Stars indicate statistical significance. (E) BCMA receptor density on BM MNCs from healthy donors (n=10) and patients with MM (n=37). N.S.: not significant.

References:

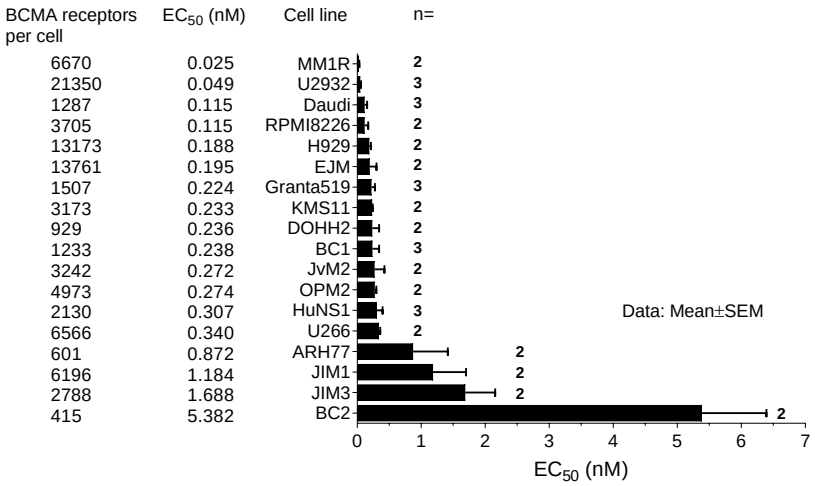
1. Agnelli, L., et al., A SNP microarray and FISH-based procedure to detect allelic imbalances in multiple myeloma: an integrated genomics approach reveals a wide gene dosage effect. Genes Chromosomes Cancer, 2009. 48(7): p. 603-14.

2. Chng, W.J., et al., Molecular dissection of hyperdiploid multiple myeloma by gene expression profiling. Cancer Res, 2007. 67(7): p. 2982-9.

3. Gautier, L., et al., affy--analysis of Affymetrix GeneChip data at the probe level. Bioinformatics, 2004. 20(3): p. 307-15.

Supplemental Figure S1

A



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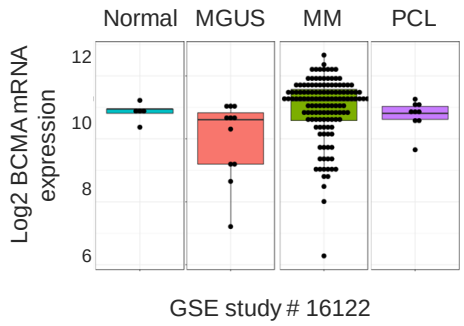

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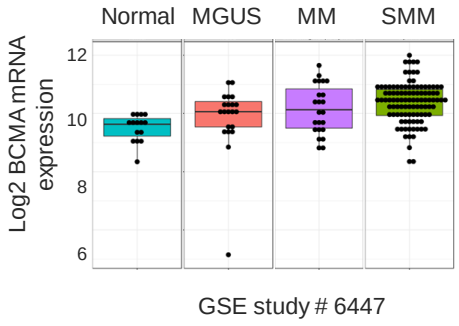

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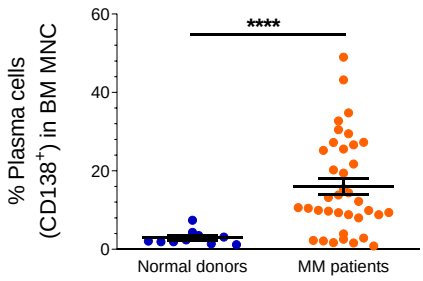

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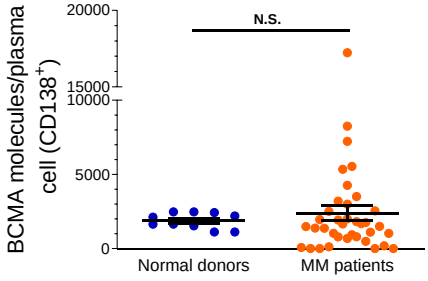
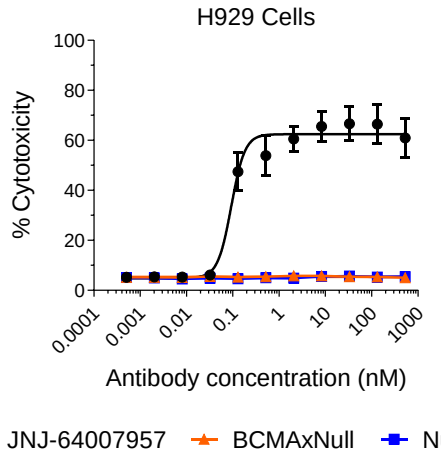


Supplementary Figure S2. Teclistamab induced cytotoxicity and T cell exhaustion in H929 cells.

Cytotoxicity of H929 cell line ($BCMA^+$) in the presence of teclistamab and healthy T cells (n = 2 donors) incubated for 48 hours. (A) Cytotoxicity was measured counting CFSE labelled cells after 48 hours incubation. (B) Activation of T cells as evidenced by the CD25 cell surface marker (panel 1). T cell exhaustion was measured using PD-1 and Tim-3 expression (panel 2 and 3) and cytotoxic potential was measured using CD107a marker (panel 4). No lysis or T cell activation was observed with the control antibodies BCMAxNull or NullxCD3.

Supplemental Figure S2

A



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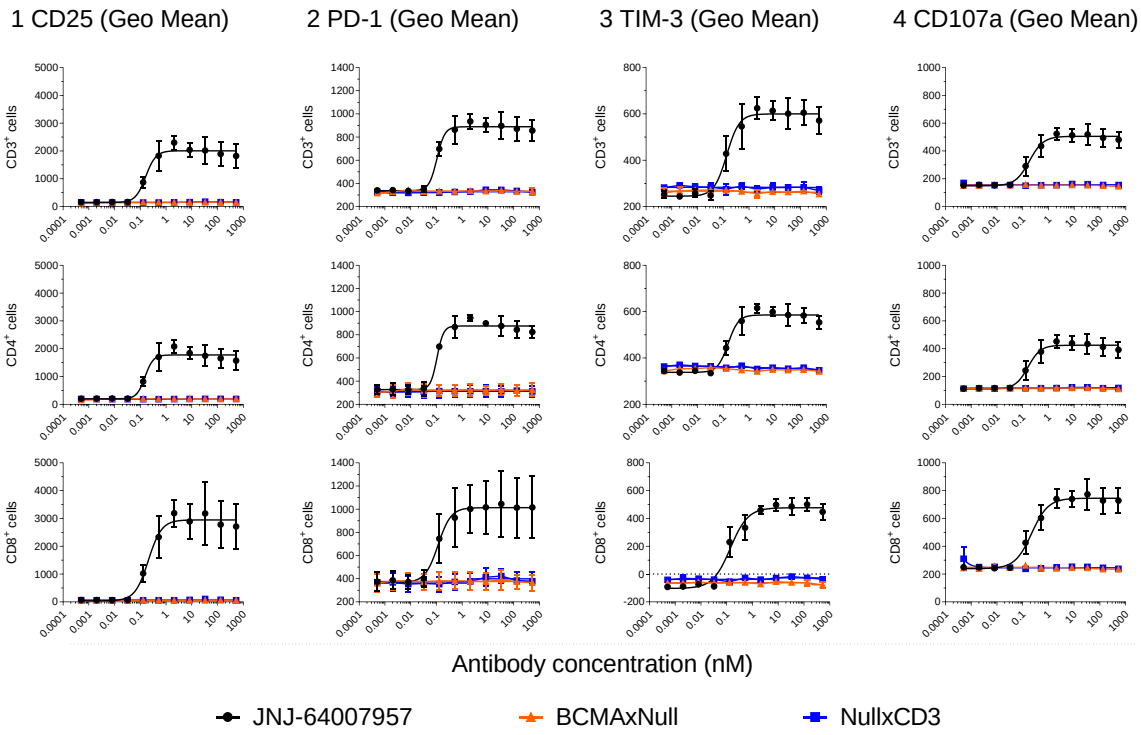
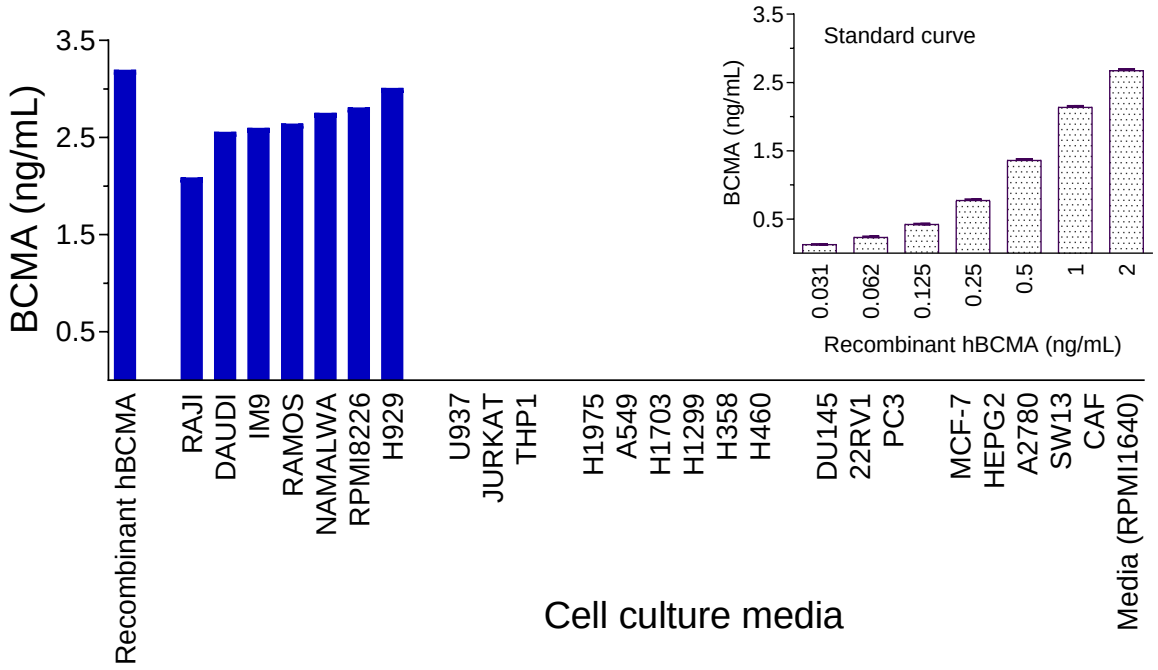


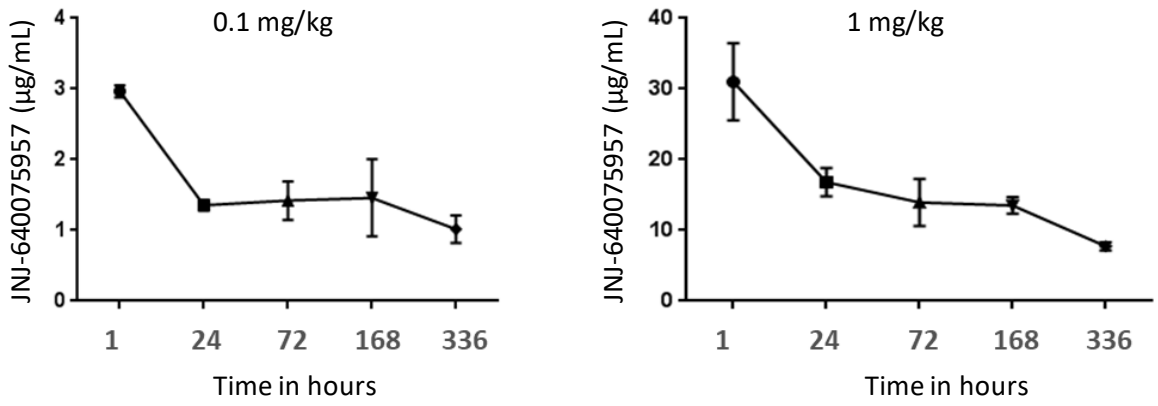
Supplementary Figure S3. Soluble BCMA (sBCMA) levels in various cell lines. One million cells from various lines were cultured in serum free media for 24 hours and the supernatants were collected by centrifugation at 1000 rpm. sBCMA quantitation was done using an R&D Systems ELISA kit. sBCMA levels were interpolated using a BCMA standard curve (Insert) and graphed on the y-axis.

Supplemental Figure S3



Supplementary Figure S4. Teclistamab PK profile. NSG mice were injected with two concentrations (0.1 and 1 mg/kg) of teclistamab and monitored for the presence of antibody by collecting blood for analysis at various time points (1, 24, 72, 168, 336 hours). Teclistamab concentration (μg/mL) was listed on the y-axis and x-axis shows the time of sample collection.

Supplemental Figure S4



Supplementary Table 1. Cytokine profile from the in vitro killing assay. Supernatants from the in vitro killing assay (Figure 2 A-B) were collected and analyzed for cytokine levels using an MSD ELISA kit as per manufacturer's instructions. Cytokine profiles (EC_{50} values) were listed in the table for each individual T cell donor along with the average values for both H929 and RPMI 8226 cell lines.

Supplemental Table S1

Cytokines induced by JNJ-64007957 in the T cell-mediated cytotoxicity assays

H929 cells (nM)

Donor	M2550	M5137	M6457	M6541	M6576	M7197	**Average**
Cytokine							
IFN-γ	1.08	0.96	11.88	0.77	0.99	1.22	2.82
TNF-α	5.17	3.28	3.84	2.45	3.88	3.86	3.75
IL-2	6.53	3.79	2.36	2.28	5.56	4.00	4.09
IL-6	0.74	2.24	2.25	0.78	0.52	2.10	1.44
IL-8	ND	0.54	0.10	0.56	ND	7.56	2.19
IL-10	2.28	1.71	1.33	1.76	2.24	2.14	1.91

RPMI8226 cells (nM)

Donor	M2550	M5137	M6457	M6541	M6576	M7197	**Average**
Cytokine							
IFN-γ	2.05	2.08	2.11	0.93	1.37	1.13	1.61
TNF-α	2.91	2.38	3.72	2.86	1.99	95.15	18.17
IL-2	3.26	1.65	2.51	1.30	1.50	1.77	2.00
IL-6	2.39	2.05	1.65	0.57	0.80	0.50	1.33
IL-8	1.03	0.33	0.72	0.11	0.33	0.46	0.50
IL-10	1.16	0.79	0.73	0.52	0.52	0.96	0.78