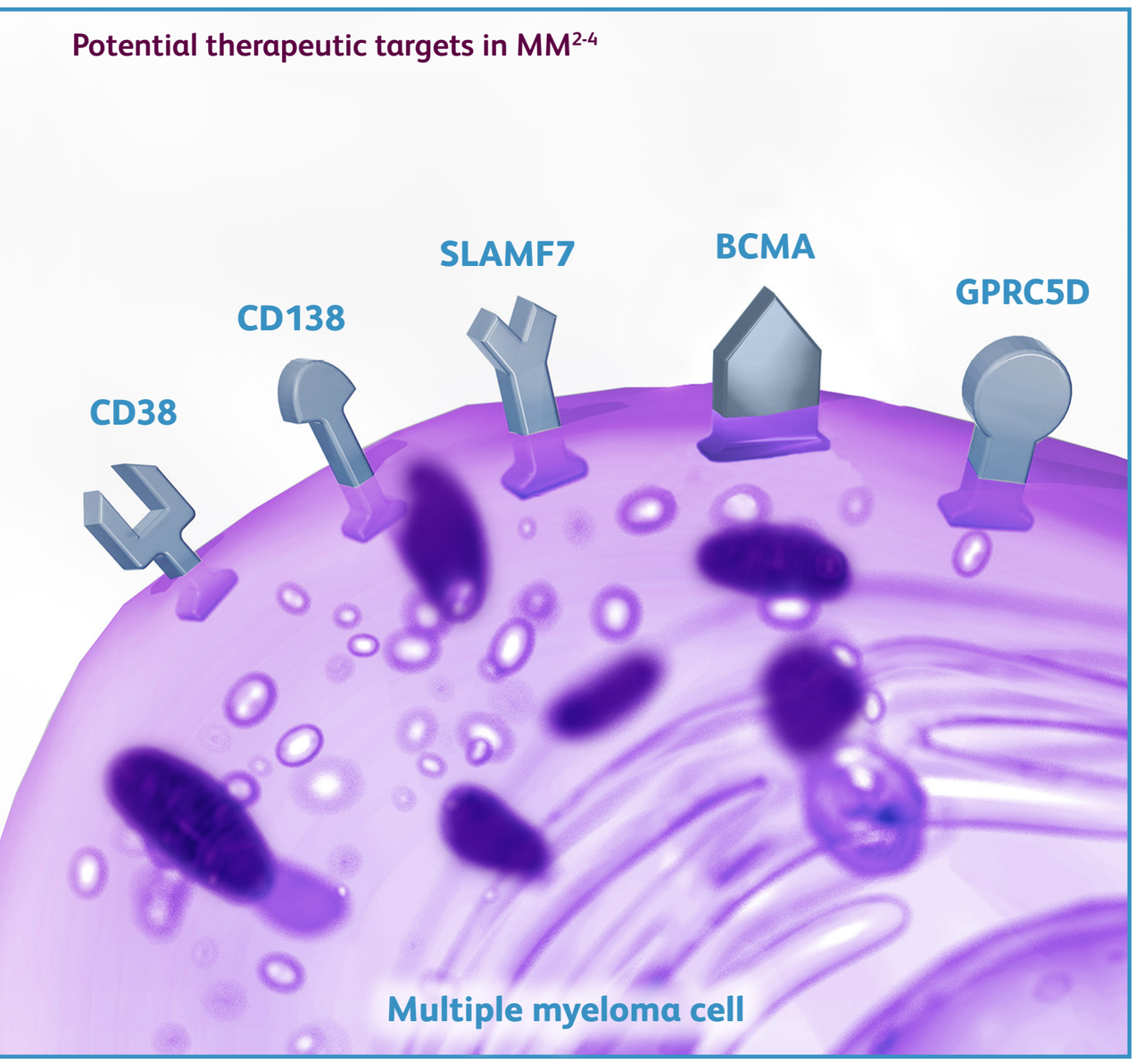
B-cell maturation antigen (BCMA) is an important target being explored in multiple myeloma[1]



Adapted from: Zhou X, Einsele H, Danhof S. *J Clin Med*. 2020;2166(9):1-14, Szalat R, Munshi NC. *Cancer J*. 2019;25(1): 45–53, and Smith EL et al. *Sci Transl Med*. 2019;11(485):eaau7746.

Multiple myeloma (MM) is a disease of a chronic and relapsing nature, and there remains an unmet need to explore additional therapeutic targets[1]

- Various agents, with diverse mechanisms of action and distinct cell surface targets, including CD38, CD138, GPRC5D, SLAMF7, and BCMA, are approved or currently under investigation[3,4]

The localization of BCMA to plasma cells, with lower expression levels on other cell types, makes it a suitable target for investigation[1]

BCMA Expression Profile:

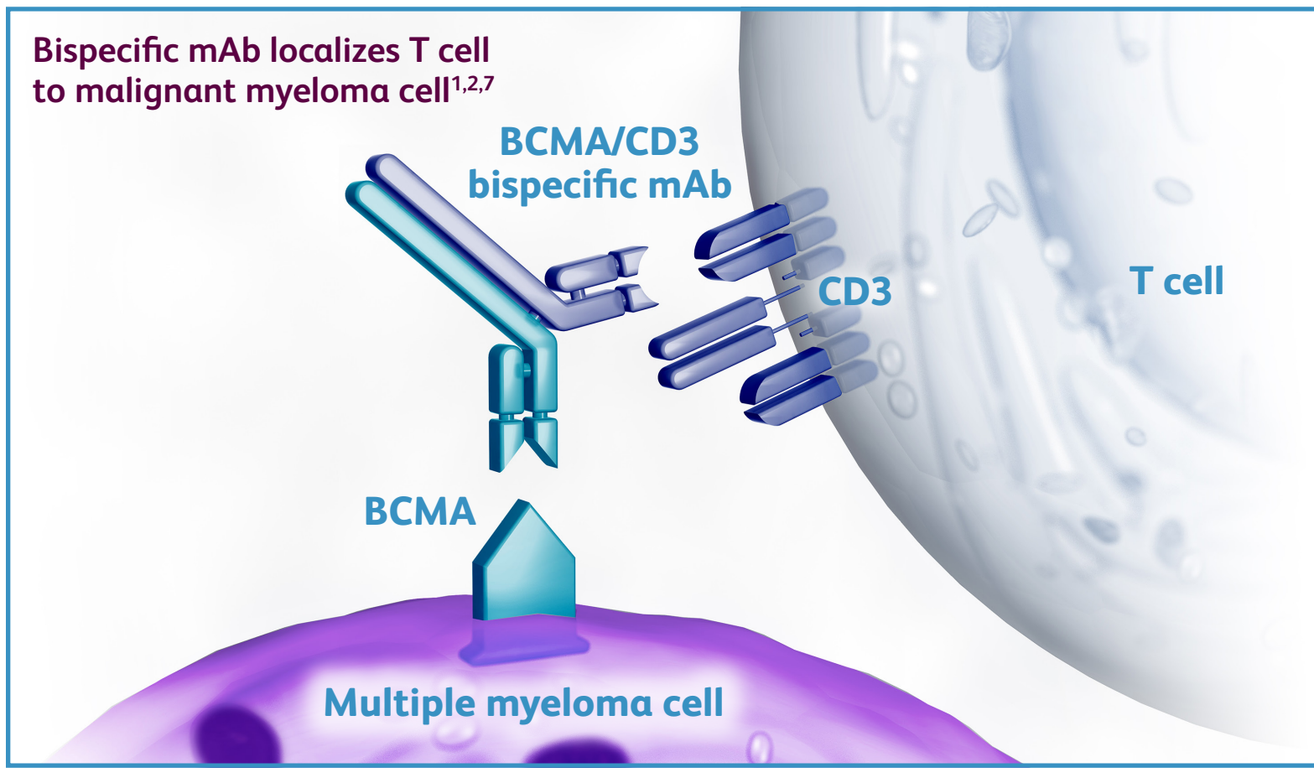
- **Selectively expressed on plasma cells:** BCMA is expressed on B-lineage cells, particularly plasmablasts and differentiated plasma cells, with minimal expression on hematopoietic stem cells or nonhematopoietic tissue[1,5]
- **Overexpressed in MM:** BCMA is highly expressed on malignant plasma cells collected from patients with MM compared with normal mononuclear cells from healthy donors[1]
- **Associated with myeloma cell survival and disease progression:** BCMA overexpression leads to enhanced expression of genes critical for growth, survival, and immunosuppression, and is associated with progression of MM in preclinical models and in humans[1]

Approaches to targeting BCMA currently fall into three mechanistic classes[1]:

- Bispecific antibodies
- Antibody-drug conjugates (ADCs)
- Chimeric antigen receptor (CAR) T cells

Bispecific antibodies (BsAbs) are one immunotherapeutic approach being explored[6]

- **Dual antigen specificity:** BsAbs are engineered to have dual antigen specificity[1]
- **T-cell activation:** Anti-BCMA/CD3 BsAbs bind to CD3 on T cells and BCMA on myeloma cells, resulting in T-cell activation, proliferation, and cytokine release, with the ability to induce tumor cell lysis[1,7]
- **MHC independent interaction:** Able to generate a robust T-cell response, engaging cytotoxic CD8+ T cells, as well as regulatory and helper CD4+ T cells[6,8,9]



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References: 1. Shah N et al. *Leukemia*. 2020;34(4):985–1005. **2.** Zhou X, Einsele H, Danhof S. *J Clin Med*. 2020;2166(9):1-14. **3.** Szalat R, Munshi NC. *Cancer J*. 2019;25(1):45–53. **4.** Smith EL et al. *Sci Transl Med*. 2019;11(485):eaau7746. **5.** Tai Y-T, Anderson KC. *Immunother*. 2015;7(11):1187-1199. **6.** Caraccio C et al. *Front Immunol*. 2020;11:501. **7.** Dahlén E et al. *Ther Adv Vaccines Immunother*. 2018;6(1):3–17. **8.** Raje NS et al. *Blood*. 2019;134(suppl 1):1869. **9.** Panowski SH et al. *Blood*. 2016;128(22):383.

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