

PB1919 S100A9 DEFICIENCY ACCELERATES MDS ASSOCIATED TUMOR ESCAPE VIA PD-1/PD-L1 OVEREXPRESSION

Topic: 09. Myelodysplastic syndromes - Biology & Translational Research

Roujia Wang¹, [Chunkang Chang](#)¹

¹ Department of Hematology, Shanghai Jiao Tong University Affiliated Sixth People's Hospital, Shanghai, China

Background: MDS are mainly characterized by ineffective hematopoiesis contributed to inflammatory signaling or immune dysfunction. Our previous studies have shown that S100a9 expression was higher in low-risk MDS and lower in high-risk MDS.

Aims: In recent studies, the tolerable safety profile and positive BM response suggest a beneficial use of anti-PD-1 agents in the treatment of MDS, but the underlying mechanism is still unknown.

Methods: In this study, skm-1 cells and k562 cells co-cultured with S100a9 acquired apoptosis features. Moreover, we confirmed the inhibition effect S100a9 on PD-1/PD-L1. Importantly, PD-1/PD-L1 blockade and S100a9 can both activate the PI3K/Akt/mTOR signaling pathway. The cytotoxicity was higher in lower-risk MDS-lymphocytes than in high-risk MDS-lymphocytes, and S100a9 partially rescue the exhausted cytotoxicity in lymphocytes.

Results: Our study demonstrated that S100a9 may inhibit MDS associated tumor escape via PD-1/PD-L1 blockade through PI3K/Akt/mTOR signaling pathway activation.

Summary/Conclusion: Our findings indicated the possible mechanisms anti-PD-1 agents may contribute to the treatment of MDS. These insights may provide more accurate treatment as the supplementary therapy for MDS patients with high risk mutations, like TP53, N-RAS or other complex mutations.

Copyright Information: (Online) ISSN: 2572-9241

© 2022 the Author(s). Published by Wolters Kluwer Health, Inc. on behalf of the European Hematology Association. This is an open access Abstract Book distributed under the Attribution-NonCommercial-NoDerivs (CC BY-NC-ND) which allows third parties to download the articles and share them with others as long as they credit the author and the Abstract Book, but they cannot change the content in any way or use them commercially.

Abstract Book Citations: Authors, Title, HemaSphere, 2022;6:(S3):pages. The individual abstract DOIs can be found at <https://journals.lww.com/hemasphere/pages/default.aspx>.

Disclaimer: Articles published in the journal HemaSphere exclusively reflect the opinions of the authors. The authors are responsible for all content in their abstracts including accuracy of the facts, statements, citing resources, etc.