

Accepted Manuscript

Anti-Tumour Treatment

Drug resistance in multiple myeloma

Pawel Robak, Izabela Drozdz, Janusz Szemraj, Tadeusz Robak

PII: S0305-7372(18)30155-5
DOI: <https://doi.org/10.1016/j.ctrv.2018.09.001>
Reference: YCTRV 1817

To appear in: *Cancer Treatment Reviews Cancer Treatment Reviews*

Received Date: 20 May 2018
Revised Date: 5 August 2018
Accepted Date: 1 September 2018

Please cite this article as: Robak, P., Drozdz, I., Szemraj, J., Robak, T., Drug resistance in multiple myeloma, *Cancer Treatment Reviews Cancer Treatment Reviews* (2018), doi: <https://doi.org/10.1016/j.ctrv.2018.09.001>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



Drug resistance in multiple myeloma

Pawel Robak¹, Izabela Drozd², Janusz Szemraj³, Tadeusz Robak⁴

Department of ¹Experimental Hematology, Medical University of Lodz, Lodz, Poland;
²Laboratory of Personalized Medicine and Biotechnology, Bionanopark, Lodz, Poland ,
³Department of Medical Biochemistry, Medical University of Lodz, Lodz, Poland and ⁴ Department of Hematology, Medical University of Lodz, Lodz, Poland

Short title: Drug resistance in multiple myeloma

Correspondence:

Tadeusz Robak
Department of Hematology
Medical University of Lodz
Copernicus Memorial Hospital, 93-510 Lodz
Ul. Ciolkowskiego 2, Poland
e-mail: robaktad@csk.umed.lodz.pl
tel: +48 42 689-51-91
fax: + 48 42 689-51-92

Abstract

Multiple myeloma (MM, plasma cell myeloma) is a malignant hematologic disease characterized by the clonal proliferation of malignant plasma cells. The treatment of MM has changed dramatically in recent years, with the introduction of new drugs into therapeutic strategies, both in the front line setting and in relapsed refractory disease. However, most patients eventually relapse and often demonstrate multiple drug resistance. Therefore there is still an urgent and unmet need to define the molecular mechanisms of resistance for available drugs in order to enhance the use of existing treatments and design more effective therapies. Genetic abnormalities are well known to play a central role in MM resistance to available drugs, and epigenetic aberrations mainly affecting the patterns of DNA methylation and histone modifications of genes, especially tumor suppressors, can be involved in the resistance mechanism. Moreover, defects in the mechanisms of apoptosis, senescence and DNA repair could also contribute to drug resistance. In addition, mutations or alterations in the expression of the drug target can influence response to therapy. Achieving a better understanding of the pathways and protein expression involved in MM drug resistance and the development of novel therapeutic strategies are important goals for further progress in the treatment of MM. This review gives a critical overview of the role of cellular, microenvironmental and molecular mechanisms of drug resistance in MM.

Download English Version:

<https://daneshyari.com/en/article/10070435>

Download Persian Version:

<https://daneshyari.com/article/10070435>

[Daneshyari.com](https://daneshyari.com)