

PROTEASOME INHIBITOR NOVEL TREATMEN IN MULTIPLE MYELOMA

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ABSTRACT

Multiple myeloma remains an incurable B-cell malignancy, necessitating urgent development of novel treatment.

The proteasome is a ubiquitous and essential intracellular enzyme that degrades many proteins regulating cell cycle, apoptosis, transcription, cell adhesion, angiogenesis, and antigen presentation.

PS-341 is a proteasome inhibitor that halts the cell cycle, resulting in apoptosis. It also inhibits a key transcription factor and has antiangiogenic activity and represents a novel potential anti cancer therapy. PS-341 has recently enrolled in many clinical trails for the treatment of multiple myeloma.

In this concise review, we briefly

described the pharmacological aspects of this drug, reviewed the current knowledge regarding mechanisms of its-anti-myeloma activity and the most recent clinical trials.

KEYWORDS : Multiple Myeloma, proteasome inhibitor, bortezomib (velcade).

INTRODUCTION

Multiple myeloma (MM) is characterized by a neoplastic proliferation of a single clone of plasma cells invading bone and bone marrow, causing widespread skeletal destruction, bone marrow failure and problems related to the production of a monoclonal protein. Multiple myeloma accounts for about 1% of all types of malignant diseases and slightly more than 10% of hematologic malignancies. The incidence reported are about 1 to 2 per