# PSMC2 Knockdown Inhibits Multiple Myeloma Cell Proliferation and Enhances Apoptosis

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## Abstract

Proteasome 26S subunit ATPase 2 (PSMC2) has been identifed as being potentially related to certain human cancers. However, the expression levels and functional importance of PSMC2 in multiple myeloma are still uncertain. PSMC2 expression in the levels of mRNA and protein was detected by qRT-PCR and western blot assay. The present study concentrated on clarifying the signifcance of PSMC2 on multiple myeloma cell behaviors including proliferation, migration and apoptosis by the CCK8 assay, the transwell assay and the fow cytometry. PSMC2 knockdown caused by RNA interference in multiple myeloma cell lines would signifcantly suppress cell proliferation, migration, enhance apoptosis and arrest cell cycle. Our results refected that PSMC2 knockdown could inhibit multiple myeloma cell proliferation and enhance apoptosis and that the inhibition of PSMC2 might be a considerable therapeutic strategy for the treatment of multiple myeloma.

**Keywords:**

## Introduction

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## Construction of PSMC2 knockdown cell models

## Knockdown of PSMC2 inhibits migration of multiple myeloma cells

## Knockdown of PSMC2 induces apoptosis and arrests cell cycle of multiple myeloma cells

## Discussion

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Paradoxical resistance of multiple myeloma to proteasome inhibitors by decreased levels of 19S proteasomal subunits. eLife 4: e08153.

14. Sherman DJ, Li J (2020) Proteasome Inhibitors: Harnessing Proteostasis to Combat Disease. Molecules 25(3): 671.

15. Perfetti V, Palladini G, Brunetti L, Sgarella A, Brugnatelli S, et al. (2007) Bortezomib-induced paralytic ileus is a potential gastrointestinal side effect of this first-in-class anticancer proteasome inhibitor. Eur J Gastroenterol Hepatol 19(7): 599-601.

16. Ciehanover A, Hod Y, Hershko A (1978) A heat-stable polypeptide component