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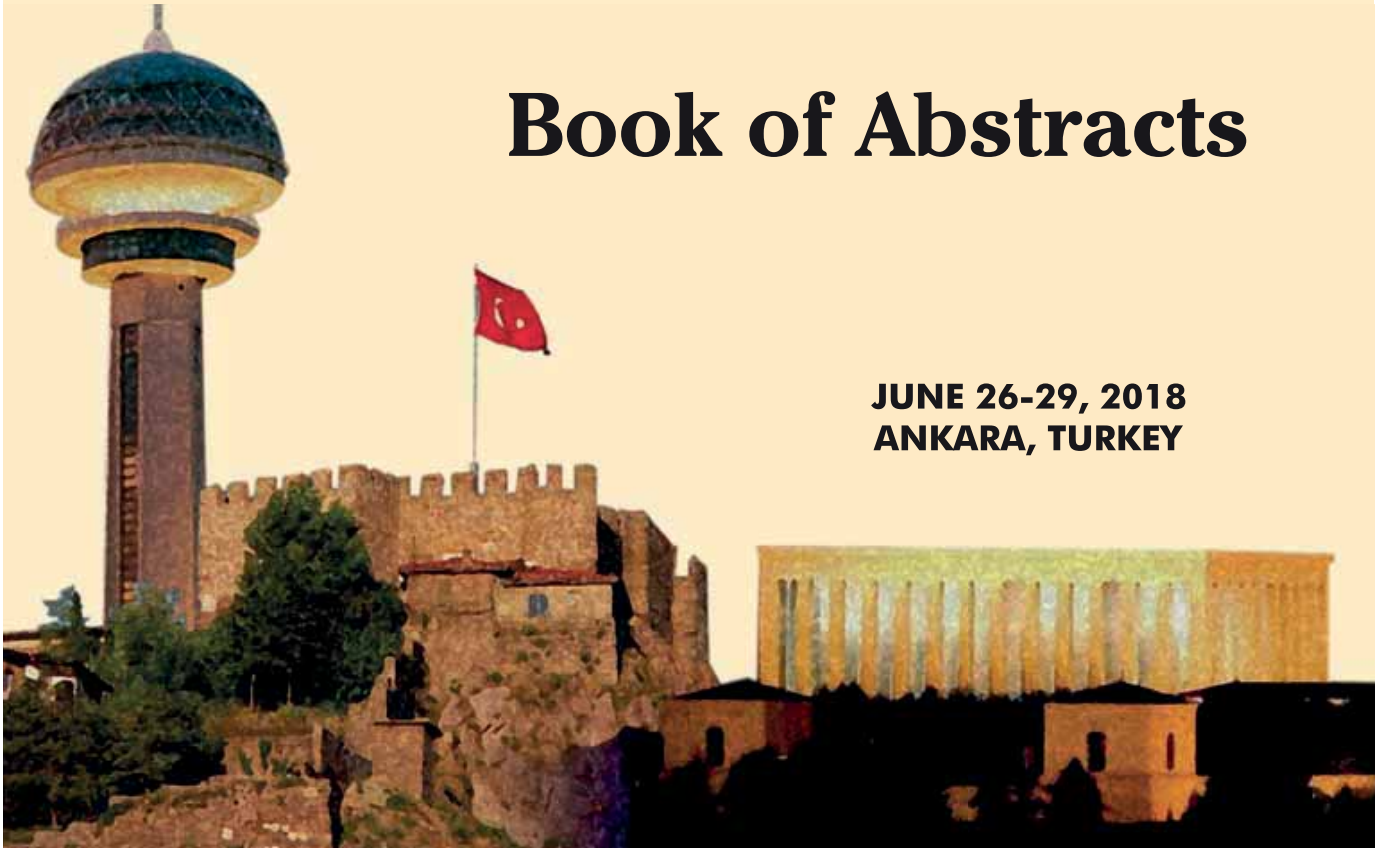
Book of Abstracts



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P-283: CARVEDILOL LOADED PLGA NANOPARTICLES FOR HYPERTENSIVE TREATMENT

[1] Ozturk AA., [2] Martin BL., [2] Cayero Otero, MD., [1] Yenilmez E., [1] Yazan Y.

[1] Anadolu University, Faculty of Pharmacy, Department of Pharmaceutical Technology, Eskişehir, Turkey

[2] University of Seville, Faculty of Pharmacy, Department of Pharmacy and Pharmaceutical Technology, Seville, Spain

INTRODUCTION:

Hypertension (HT), which defines systolic blood pressure as >140 mmHg or diastolic blood pressure >90 mmHg. There are now several drugs that are available in the market, including carvedilol (CVL) which is used for the management of cardiovascular disease and HT (1). CVL-containing PLGA nanoparticles (NPs) were prepared by nanoprecipitation method.

MATERIALS AND METHODS:

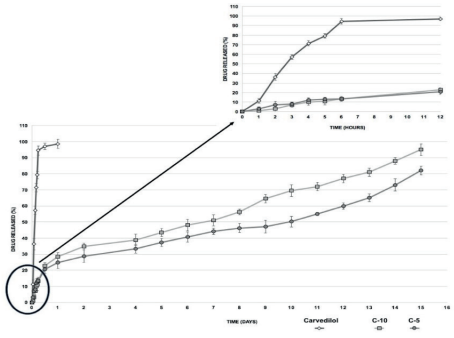
PLGA-based NPs were prepared by following the nanoprecipitation technique with modification (2). Structures of nanoparticles were characterized by particle size (PS) and zeta potential (ZP) measurements, morphology, thermal analysis (DSC) and FTIR. The entrapment efficiency (EE%) and dissolution study of each formulation was performed with HPLC. In vitro release study of the NPs formulations was investigated over 10 days and that performed in phosphate buffer (pH 6.8) containing 30 % PEG 400. Data obtained from the in vitro drug release studies were further investigated for release kinetics using DDSolver software program.

RESULTS:

Table 1. Result of PS, PDI, ZP and EE% (n=3)

Code	PS (d.nm), mean±SD	PDI, mean±SD	ZP (mV), mean±SD	EE %, mean±SD
C-Blank	173.2±1.5	0.175±0.014	-24.9±2.5	-
C-5	326.3±8.3	0.164±0.035	-25.9±0.9	79.356±4.605
C-10	345.0±3.8	0.128±0.071	-26.6±1.8	68.765±3.519

Figure 1. In vitro dissolution profile of prepared formulation and pure CVL



CONCLUSIONS:

The PS, PDI, ZP, DSC, FT-IR analysis of formulations justified that CVL was incorporated into PLGA NPs successfully. NPs formulations is promising to be for extended delivery of CVL with succesfully loaded and Peppas-Sahlin kinetic model was found to fit best to carvedilol release from nanoparticles.

ACKNOWLEDGEMENTS:

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2. Martín Banderas L, et al. (2012) Cannabinoid derivate-loaded PLGA nanocarriers for oral administration: formulation, characterization, and cytotoxicity studies. International Journal of Nanomedicine 7:5793-5806

P-284: DETERMINING THERAPEUTIC RESPONSE OF MULTIPLE MYELOMA BY MASS ACCUMULATION AT SINGLE CELL LEVEL

[1,2] Cetin, AE., [2,3] Stevens, MM., [2] Calistri, NL.,[3] Fulciniti, M., [2] Olcum, S., [2] Kimmerling, RJ., [3] Munshi, N., [2] Manalis, SR.

[1]Izmir Dokuz Eylul University, International Biomedicine and Genome Institute, Izmir, Turkey

[2]Koch Institute for Integrative Cancer Research, Massachusetts Institute of Technology, Cambridge, MA, USA

[3]Harvard Medical School, Dana-Farber Cancer Institute, Boston, MA, USA

INTRODUCTION:

Multiple myeloma (MM) is the second most common hematologic malignancy in the world. Despite improvement in outcome, the disease is still incurable for most patients. With the same treatment, patient survival varies, suggesting that there is an underlying heterogeneity in the disease. Therefore, a clear delineation of heterogeneity in therapeutic response could provide unique opportunities for personalized treatment of myeloma.

MATERIALS AND METHODS:

Here, we introduce an approach for defining the sensitivity of single cells using an apparatus called suspended microchannel resonator (SMR) (1). By measuring the mass repeatedly in a device configuration with multiple SMRs connected in serial, where each SMR is separated in time by delay

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