

## عنوان مقاله:

Oligoclonal selection of vascular endothelial growth factor specific nanobodies and functional assessment in inhibition of endothelial cell angiogenesis

## محل انتشار:

اولین کنفرانس ملی نانو از سنتز تا صنعت (سال: 1396)

تعداد صفحات اصل مقاله: 1

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## خلاصه مقاله:

**Introduction:** Today cancer is one of the main leading causes of death in the world and study on angiogenesis and effective factors like endothelial growth factor (VEGF), is one of main approach for cancer treatment. Nanobodies are kinds of heavy chain antibodies in camels, which have some advantage over monoclonal antibodies like: high affinity to target, high solubility, high stability, and easy production process. Because of high homology between nanobodies (VHHs) and human VH, they are the best target for drug development. Nanobodies have the lower half- life in vivo due to their small size. Oligoclonal use of Nanobodies is one the novel approach for increasing their efficacy. **Methods:** First, 4 Nanobodies were selected and their frame works and CDRs were determined by IMGT database. The selected Nanobodies subcloned in pHEN6C expression vector as His\_tag fusion, and were purified by Nickel affinity chromatography. The Nanobodies expression levels, measured by Bradford and BCA test. SDS-PAGE was performed to check the purity of purified Nanobodies. Then, western blot was performed using anti-His-HRP conjugated antibody to confirm expression of Nanobodies. Functional assessment of Nanobodies was evaluated by endothelial cell proliferation and tube formation assays. **Results:** Our results demonstrated that oligoclonal use of Nanobodies strongly inhibited proliferation and tube formation of human endothelial cells as compared to single use of nanobody in vitro. **Conclusion:** Taken toghather, oligoclonal use of Nanobodies potentially inhibited angiogenesis and .promises a novel tool for research and therapy of angiogenesis-dependent disease

## کلمات کلیدی:

Oligoclonal nanobodies, VEGF, Angiogenesis, Cancer

## لینک ثابت مقاله در پایگاه سیویلیکا:

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