Improving the productivity of scFv against c-Met by rearranging the order of variable domains

김유진, 허미애, 이선구*
부산대학교
(sungulee@pusan.ac.kr*)

c-Met, a high affinity receptor for hepatocyte growth factor/scatter factor, shown to be overexpressed in a variety of malignant cells, is a potential biomarker as well as a therapeutic target. Thus antibody specific for c-Met is expected to be efficiently employed in the clinical treatment or imaging of many cancer cells. scFvs against c-Met with two different domain orders, i.e. V_L-linker-V_H and V_H-linker-V_L, were expressed in the cytoplasm of *E. coli trx/gor* deleted mutant and their activities as well as their productivities were compared. The scFv with V_H/V_L orientation showed 5-10 times higher expression levels than those with V_L/V_H orientation. Coexpression of DsbC in the cytoplasm of *E. coli* increased the yield of functional fragment antibodies about more than 5 fold compared to the production of fragment antibodies without DsbC coexpression. The fragment antibodies fused with hexahistidine residues at the C-terminus of the recombinant proteins were purified by immobilized metal affinity chromatography (IMAC).

Acknowledgement : This research was supported by a grant (04-RIS-024) from Regional Innovation System funded by the Ministry of Commerce, Industry and Energy, Republic of Korea