

New aptamer selection method for fungal peroxidase (CiP)

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Abstract

Recently, DNA antibody called aptamer takes attention because of its specificity and stability compared with that of protein antibody. Several aptamers have been already developed for various targets including protein & small chemical compounds. However, the selection procedure for aptamer were known very tedious and laborsome. we developed new method for selection of aptamer, which is enable to select aptamers easily. We have used the well-characterized fungal peroxidase(CiP) as an exemplar for raising aptamers. The methodology is based on the affinity resin of the CiP and the performance of SELEX^{1,2} selections in affinity resin added to the PCR tube, based on elution steps resulting from the denaturation of the CiP on the first PCR amplification cycle. After 10 rounds of selection and amplification, selected aptamers have been characterized using a number of techniques, including ELISA^{1,3} and competition ELISA^{1,3} procedure.

In conclusion, this methodology offers the possibility of rapidly selecting aptamers for antibody targeting that could be used as diagnostic, imaging or therapeutic agents, or as recognition units in immunoassays, and can be potentially useful in raising aptamers against other protein targets.

References

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