

SIMULTANEOUS IMAGING OF PROTEINS AND ELEMENTS IN TISSUES BY LA-ICP-MS

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Laser ablation with inductively coupled plasma is still more used in life science as biology and biomedicine and the utilization of metals and proteins determination simultaneously is also growing up.^{1,2} We have developed a new strategy of antibody labeling (it can specific binds to proteins) by nanoparticles which is composed of thousands of atoms and thus increases the sensitivity enormously and of course decreases the limit of detection, compare to lanthanoids labeling. The ability of successfully tagged antibodies bounds to antigen (protein) was proved by dot blot on membrane imaged by LA-ICP-MS. It should be universal method to image simultaneously distribution of elements and proteins as well. One of the many possible applications is binding of labelled antibodies to the tumour tissues containing metallothionein (known as a transporter of Cu, Zn and heavy metals) and image their distribution in different tumour stage.

References

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