New technique can be breakthrough for early cancer diagnosis

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Early detection of disease is often critical to how successful treatment can be. Therefore, the development of new methods of diagnosis is a hot research field, where every small step is of great importance. In an article in the latest issue of *Molecular & Cellular Proteomics*, Uppsala University researchers describe a technique that the journal regards as especially interesting.

Proteins build up the body's cells and tissues, and our knowledge of the human genome also entails that today's scientists are aware of all of the proteins that our body can produce. It is known that many morbid conditions can be linked to changes in proteins, so it is important to enhance our knowledge of what proteins bind to each other, how they work together, and how processes are impacted by various disturbances.

In 2006 Ola Söderberg and his colleagues at the Department of Genetics and Pathology devised a new technique, in situ PLA (in situ proximity ligation assay), that could detect communication between proteins in cells. These researchers have now refined the method and can now see how proteins undergo change inside a cell.

"The method provides a better potential to truly understand how proteins function in the cell and can show what is wrong with a sick cell, as in cancer, for instance. The refined method has the potential to revolutionize cancer diagnostics, so there has been a great deal of interest in the method from the research community," says Ola Söderberg.

The technique is more sensitive and more reliable than other available techniques in molecular diagnostics, and it has already started to be sold by the Uppsala company Olink, so there are high hopes that it will soon be used in health care.

Source: Uppsala University

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