

More precise diagnosis for cancer by detection of exosome-membrane proteins

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Technology description

New method to detect exosome membrane protein. High-sensitive measurement of tumor markers.

Core Benefit

The only method to detect exosome-membrane proteins with practical procedures

Higher sensitivity and specificity compared with existing blood-marker test

Background

The detection of tumor biomarker proteins in blood is widely spread as a method for diagnosis of cancer. For example, one of tumor markers, CEA, and its family are used for diagnosis of gastro-Intestinal cancer. However, their sensitivity and specificity can be questioned because the level of CEA is increased by other diseases (e.g. chronic lung disease) and smoking.

Technology

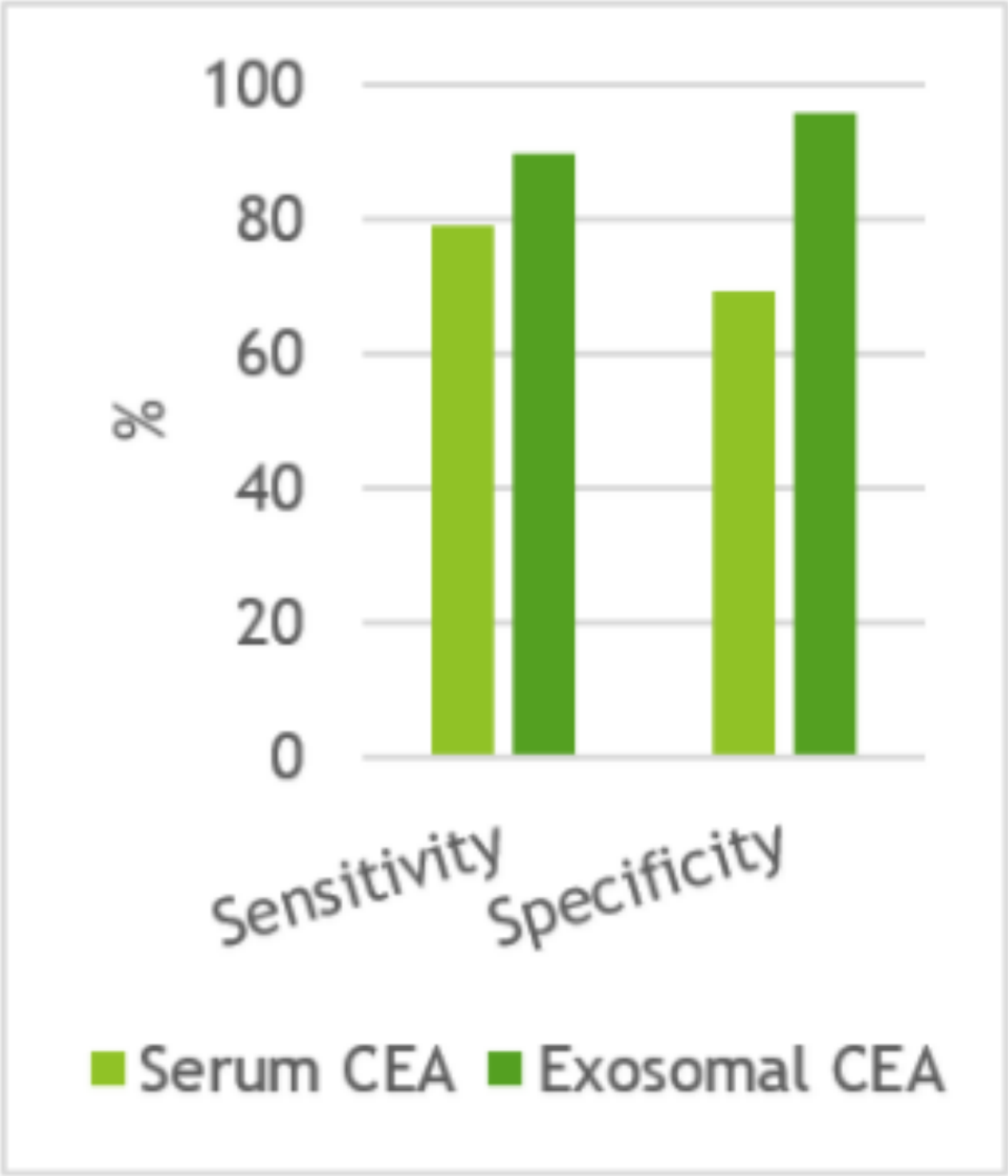
Our technology is a new method to detect membrane proteins on exosome, and improves sensitivity and specificity of cancer diagnosis. A certain treatment for exosome in biological sample makes exosome-membrane proteins (e.g. CEA family) detectable with ELISA method. This method actually improves sensitivity and specificity of cancer diagnosis because it can selectively detect tumor makers on exosome derived from cancer cells and not be disrupted by fake increasing by other factors. In addition, this technology can be applied to a research tool. Such high-sensitive tool will contribute development of diagnosis and treatment of diseases by accelerating researches of intercellular trafficking.

Data

Applying our technology, exosome-membrane proteins, CEA, CEACAM1, CEACAM5, and CEACAM6, were detected with ELISA.

The researcher performed diagnosis of distant metastasis of cancer with measurement of CEA on exosome membrane in blood serum obtained from 116 colorectal-cancer patients after operation.

Compared to a common diagnosis with CEA in blood, sensitivity and specificity were improved to 10% and more than 25%, respectively.



Resercher
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Expectations

We are looking for companies who develop and commercialize the method to a diagnosis tool, or reagent for detection of exosome-membrane proteins with any license contracts. We can provide details of the method and results of the cancer diagnosis under CDA.

Institution

[Tech Manage Corp](#)

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