



**The Chinese University of Hong Kong
Non-confidential Abstract of Technology Disclosure**

Title:

A Novel Biomarker for Cancer Diagnosis and Drug-target for Cancer Therapy

CUHK Ref. No.:

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Inventor(s):

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Patent Status:

- ◆ US Patent Pending
- ◆ Chinese Patent Pending
- ◆ Hong Kong Patent Pending

Non-confidential abstract:

Cancer is a major “killer” disease and is also difficult to tackle. In cancer therapy, the treatment will most likely be effective if the cancer is detected at its early stage and also does not develop resistance to the treatment. Although several cancer biomarkers are currently available for diagnosis of cancer, one of the major problems for these biomarkers is that they are not only highly expressed in cancer tissues but also abundant in normal tissues, e.g. CEA is secreted from normal colon tissue. Moreover, many of these biomarkers can be used only for cancer diagnosis but not for monitoring drug resistance development upon cancer therapy.

In addition to over-expression in human cancer cells that developed resistance to anticancer drug, a novel gene was found to be abundant in human cancer tissues but almost undetectable in different human normal tissues. The features of this genes support its possible use as the biomarker for cancer diagnosis and cancer therapy. Furthermore, the gene and its gene product may serve as the therapeutic target for anticancer drug development.

Advantages:

1. It is only detectable in placenta but almost undetectable in different human normal tissues including muscle, heart, colon, etc.
2. It is detectable in a wide range of human cancer cell lines of different tissue origins.
3. Cancer tissues vs Normal tissues. It is highly expressed in cancer tissues as compared to matched normal tissues, e.g. colon cancer, cervical cancer, lung cancer and breast cancer
4. Drug resistant cells vs Parent cells. It is highly expressed in drug resistant cells from several cell systems as compared to each respective counterpart.



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Applications:

1. Cancer biomarker for patients with colon cancer, cervical cancer, lung cancer and breast cancer.
 2. Biomarker for drug resistance development in cancer patients undergone chemotherapy
 3. Serve as the novel target for drug screening.
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