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BV 2011-09 - *Novel Plasma Biomarker and Marker Profiles for Analysis of Metastatic Disease*

APPLICATION:

Novel biomarker profile for the determination and management of metastasis to bone of patients with breast cancer.

KEY BENEFITS:

- Early identification of bone metastases in breast cancer patients
- Platform independent
- Detectable in serum

MARKET SUMMARY:

Currently there are approximately 2 million women in the US living with breast cancer, and of these approximately 80% will develop tumors in bone. Bone metastasis is a devastating and incurable phase of breast cancer progression that significantly compromises patient morbidity and mortality. The critical barrier to understanding breast cancer metastasis and treating women with the high possibility of progression to bone cancer is the use of better, more sensitive and validated biomarkers that can distinguish this prognosis. Unfortunately, the identification of new target molecules more useful in the diagnosis and treatment of cancer and other diseases is needed. The clinical evaluation of bone metastasis currently involves radiographic confirmation of the diagnosis followed by the investigation of secondary causes of bone loss and the evaluation of different bone markers. However, these methods do not detect or predict which patients have developed or are at risk for developing bone metastasis. The present technology provides a panel of biomarkers and a biomarker profile that discriminate between subjects that have breast cancer with bone metastasis and subjects that have breast cancer without bone metastasis.

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TECHNICAL SUMMARY:

Bone turnover markers for the most part have not been demonstrated to have clinical significance in the evaluation of metastatic breast cancer and bone cells. The present invention used proteomic technologies to identify unique fragments of parathyroid hormone related protein useful as diagnostic markers for the metastasis of breast cancer to bone. Parathyroid hormone related protein is a tumor-derived factor expressed in the majority of breast cancer bone metastases. This novel plasma biomarker was identified using SELDI TOF MS and has been validated in appropriately controlled studies. Further, this invention also includes a purified antibody that binds specifically to the parathyroid hormone related protein.

DEVELOPMENTAL STAGE:

Tested with breast cancer patient samples

PATENT INFORMATION AND CONTACT:

App Type: US Nat
Country: US
Serial No.:
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