Radionuclidic and Non-radionuclidic Molecular Imaging Agents for the Estrogen Receptor Based on 11-beta Subsituted Steroidal Anti-Estrogens

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Technology description

Description
Currently, only few agents capable of noninvasive imaging for breast cancer are available. F-18 16 alpha-fluoro-estradiol (FES) is among the most common agents used in this regards. However, such agents are highly prone to in-vivo metabolism, are less stable, and are associated with higher liver update, and lower renal clearance.This approach discloses the development and use of a novel imaging technique comprising the use of novel agents to target estrogen receptors for visualization of tissues associated with variety of modalities.
Value Proposition
The technique:
•Utilizes novel steroidal derivatives as imaging agents
•Allows for an easier separation of unlabelled precursors
•Is based on high affinity anti-estrogen structure as compared to current estrogenic materials
•Allows for use of more stable and high affinity agents as compared to conventional techniques
•Comprising the use of 11-beta substituted steroidal anti-estrogens as probes for ER selectivity and affinity
•Allows for an easier detection of lesions in breast, ovaries, and uterus as compared to conventional techniques
•Further allows for a reduced metabolism of agents as compared to conventional techniques
•Is modular in nature, comprising independent preparation of various components followed by incorporation using simple chemistries and physic-chemical diversities
•Would be commercially useful for variety of applications such as PET, SPECT, Fluorescence, MRI and Raman especially for imaging at a cell, tissue, and a whole animal scale

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