

Radionuclidic and Non-Radionuclidic Molecular Imaging Agents for the Estrogen Receptor Based on 11-Beta Substituted Steroidal Anti-Estrogens

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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 uptake, 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

Intellectual Property Status

Provisional Application 61/735,184

License Status

Available for license

