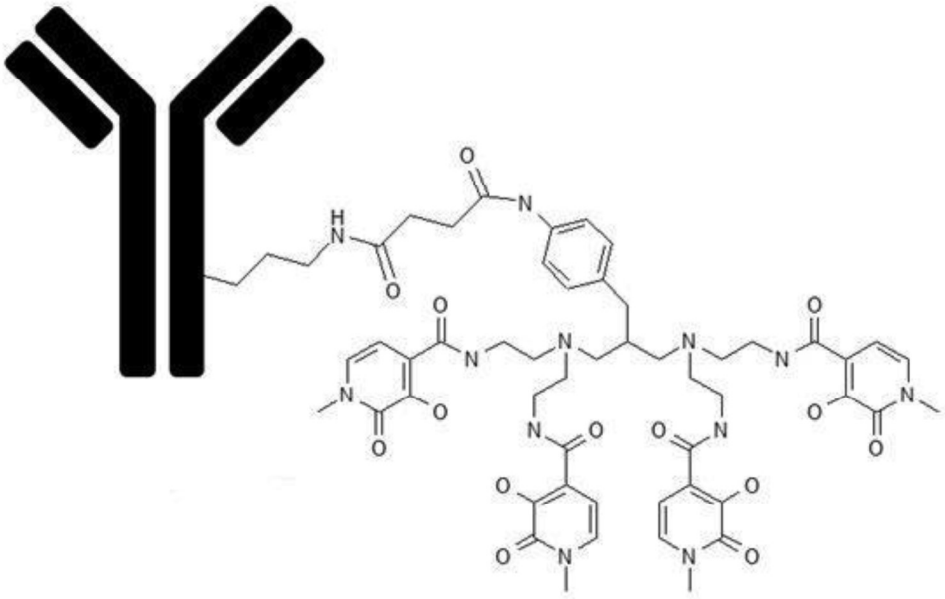
Claims

What is claimed is:

1. A tissue-targeting thorium complex comprising the compound:



wherein



represents a tissue targeting moiety comprising at least one peptide or protein having binding affinity for the CD22 receptor, FGFR2, HER-2, PSMA or CD33; and

the 4+ ion of an alpha-emitting thorium radionuclide.

2. The tissue-targeting moiety has binding affinity HER-2.

3. A pharmaceutical formulation comprising at least one tissue-targeting thorium complex as claimed in claim 1 or 2.

4. The pharmaceutical formulation of claim 3 further comprising citrate buffer.

5. The pharmaceutical formulation of claim 3 or claim 4 further comprising p-aminobutyric acid (PABA), and optionally EDTA and/or at least one polysorbate.

6. The pharmaceutical formulation as claimed in any of claims 3 to 5, for use in the treatment of hyperplastic and/or neoplastic disease such as a carcinoma, sarcoma, myeloma, leukemia, lymphoma or mixed type cancer including Non-Hodgkin's Lymphoma or B-cell neoplasms, breast, endometrial, gastric, acute myeloid leukemia, prostate or brain, mesothelioma, ovarian, lung or pancreatic cancer.