MMP-based Inhibitors and Tracers

OCR Number: OCR 6966

Description:

**Novel matrix metalloproteinases (MMPs) Inhibitor and MMP-targeted imaging tracers**

- Upregulation of MMPs is associated with a wide range of diseases including cancers, inflammation and cardiovascular diseases.
- Measurement of MMP expression and activation in vivo could enable physicians to accurately diagnose and treat MMP-associated diseases.
- Currently there are no tracers available in the clinic for imaging MMP activity.
- A new type of a MMP inhibitor (1) has been developed, which also serves as a versatile scaffold (3) for developing MMP-targeted imaging agents.
- Additionally, a novel precursor was also designed as a parent building block for making different type of hydrophilic MMP imaging tracers.
- These novel scaffolds display improved pharmacokinetics and water solubility as compared to previously reported MMP SEPCT probes (i.e. RP805)

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**IP status:** PCT/US2017/026610

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**99mTc-RYM1 imaging of carotid aneurysm**

Ex-vivo photography (A) and autoradiography (B) of aorta and carotid arteries from apoE-/- mice with CaCl2-induced carotid aneurysm injected with 99mTc-RYM1 without (left) and with the pre-injection of an excess of MMP inhibitor, RYM (right).