Development of SPECT imaging agents based on Tc-99m targeting Aβ plaques is useful for diagnosis of Alzheimer’s disease (AD). A stilbenederivative, \([11C]SB-13\), showing promise in detecting senile plaques present in AD patients has been reported previously\(^1\,\!^2\). Based on the 4′-amino-stilbene core structure we have added substituted groups through which a chelating group, \(\text{N}_2\text{S}_2\), was conjugated. We report herein a series of Tc-99m labeled stilbene derivative conjugated with a TcO[\text{N}_2\text{S}_2]\) core.

The syntheses of stilbenes containing a \(\text{N}_2\text{S}_2\) chelating ligand are achieved by a scheme shown. Lipophilic 99mTc stilbene complexes were successfully prepared and purified through HPLC. Preliminary results of \textit{in vitro} labeling of brain sections from transgenic mice showed very promising plaque labeling. These 99mTc stilbenederivatives are warranted for further evaluations as potential imaging agents targeting amyloid plaques.

References:


We have recently publish a paper in the Nuclear Medicine and Biology: