

EVALUATION OF [⁶⁴Cu] PYRUVALDEHYDE-BIS (N4-METHYLTHIOSEMICARBAZONE) AN ATTRACTIVE RADIOPHARMACEUTICAL FOR MYOCARDIAL PERFUSION FOR PET**Juan C Manrique Arias**

Instituto Nacional de Cancerología & Universidad Nacional Autónoma de México, Mexico

Copper (Cu) is an important trace element in humans; Due to its decay characteristics, Cu-64 ($T_{1/2}=12.7\text{h}$, β^+ [17.4%], β^- [39%], E.C. [43.6%]) is an attractive radionuclide with applications in both, PET Copper molecular imaging and targeted therapy. This radionuclide has been widely used in the labelling of macromolecules such as peptides, proteins, monoclonal antibodies, and thiosemicarbazone complexes, [⁶⁴Cu]Cu(II)-pyruvaldehyde-bis(N₄-methyl-thiosemicarbazone) ([⁶⁴Cu]Cu(II)-PTSM), a tracer for myocardial perfusion, Cu-64 is produced via the ⁶⁴Ni(p,n)⁶⁴Cu, nuclear reaction. [⁶⁴Cu]-PTSM is prepared using in-house made PTSM ligand and [⁶⁴Cu] chloride. Radiochemical purity of [⁶⁴Cu]-Cu(II)-PTSM is higher than 98%. Cu(II) bis(thiosemicarbazone) complex as myocardial perfusion agents, labelled with positron emitters of Cu with half-lives suitable for its regional distribution from a satellite Centre.

juancmanriquea@unam.mx