

Initiating a Lutetium Radiolabelling Service

^{177}Lu Lutetium

- Beta (*E_{max} in KeV*): 175 (12,3%) 380 (9%) 497 (78,7%)
- Gamma & X-ray (*E in KeV*): 113 (6%), 210 (11%)
- Maximum and mean soft-tissue penetration depths of 1.7 mm and 0.23 mm, respectively
- Half-Life [$T_{1/2}$] : 6.65 days
- Non carrier added
- Shielding- aluminium, plexiglass, lead



177Lu in Malaysia

- Poison Act 1952
- Non-reg
- Legal frame work
- Feasibility



PRRNT & Peptides

- Peptide receptor radionuclide therapy (PRRNT) is a **molecularly targeted** radiation therapy involving the systemic administration of a radiolabelled peptide designed to target with high **affinity and specificity** receptors **overexpressed on tumours**. IAEA, EANM, SNNMI
- Dotatate, dotatoc, dotanoc, PSMA (11, 617, I&T, THP), etc
- Affinity, specificity, availability, reproducibility



Radiolabelling

- Facilities
- Equipment & Consumables
- Personnel
- Protocol
- QC



Patient Management

- Before, somatostatin analogues, blood test
- During, amino acid, ice packs
- After, pain management, radiation safety



*The Far Side by Gary Larson

Q&A