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RADIOACTIVE TRACERS ASSIGNMENT

QUESTIONS

1.WHAT ARE RADIOACTIVE TRACERS

2.DISCUSS EXPLICITLY ONE APPLICATION OF TRACER IN MEDICINE

ANSWERS

1.firstly radioactivity can be defined as a spontaneous nuclear transformation in unstable action that results in the formation of new elements.these different mechanism including

Alpha particle emission

Beta particle aand positive emission

Radioactive tracers can also be called radioactive labels and they are chemical compounds in whih one or more atoms have been replaced by a radio nuclide so by virtue of its radioactive decay.it can be used to explore the mechanism of chemical reactions bytracing the path the radioisotope follows from reactants to products of isotopic labeling

**Tracers isotope**

Hydrogen

Carbon

Oxygen

Phosphorus

Iodine

Nitrogen

Fluorine

Sulphur

Many other isotopes have been used in specialized radiopharmacological studies.the most widely used is ga for gallium scans. Ga is used because like tc it’s a gamma ray emitter and variouys ligands can be attached to the ga3+ ion forming a coordination compkex which may have selective affinity for particular sites I the human body

2. applications

60co; gammaray irradiation of tumors

99mmtc;brain thyroid liver bone marrow intestinal scanning blood determinatiob

131l;diagnosis and treatment of thyroid function

133xe-lung imaging

59fe –anemia diagnosis

32p; cancer detection and treatment, especially in eyes and skin .