

RADIOACTIVE TRACER

A radioactive tracer is a radioactive element or compound added to a material to monitor the material's distribution as it progresses through a system. The use of a radioactive tracer is called radio-labelling, which is one form of isotopic labelling. Radioactive tracer is a chemical compound in which one or more atoms have been replaced by radionuclide so by virtue of its radioactive decay it can be used to explore the mechanism of chemical reactions by tracing the path that the radioisotope follows from reactants to products. Radioactive tracing is thus the radioactive form of isotopic labelling. Radioisotopes of hydrogen, carbon, phosphorus, sulphur, and iodine have been used extensively to trace the path of biochemical reactions. A radioactive tracer can also be used to track the distribution of a substance within a natural system such as a cell or tissue.

Application of Radioactive tracer

In medicine, tracers are applied in a number of tests, in nuclear medicine, Scintigraphy also known as a gamma scan, is a diagnostic test in nuclear medicine, where radioisotopes attached to drugs that travel to a specific organ or tissue are taken internally and the emitted gamma radiation is captured by external detectors. Scintigraphy of the biliary system is called cholescintigraphy and is done to diagnose obstruction of the bile ducts by a gallstone, a tumour, or another cause. It can also diagnose gallbladder diseases. In cholescintigraphy, the injected radioactive chemical is taken up by the liver and secreted into the bile. The radiopharmaceutical then goes into the bile ducts, the gallbladder, and the intestines. The gamma camera is placed on the abdomen to picture these perfused organs. Other scintigraphic tests are done similarly.