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Radium Ra 223 Dichloride

National Cancer Institute

Source

National Cancer Institute. *Radium Ra 223 Dichloride*. NCI Thesaurus. Code C62535.

A radiopharmaceutical composed of the dichloride salt of the alpha-emitting isotope radium Ra 223, with antineoplastic activity. Like calcium, radium targets bone tissue and preferentially accumulates in osteoblastic lesions, such as those seen in areas of bone metastases. Radium Ra 223 forms complexes with hydroxyapatite and becomes incorporated into the bone matrix. The radioisotope Ra 223 kills bone cancer cells through local emission of high energy alpha particles, causing DNA double-strand breaks and tumor regression in the skeleton. The short range effects of alpha emission allows for localized DNA damage with limited toxicity to nearby healthy bone tissue.