Study of radioisotope labeled cobalt-bleomycins

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1996 Fiscal Year Final Research Report Summary

Study of radioisotope labeled cobalt-bleomycins

Research Project

Project/Area Number

07670987

Research Category

Grant-in-Aid for Scientific Research (C)

Allocation Type

Single-year Grants

Section

一般

Research Field

Radiation science

Research Institution

Kanazawa University

Principal Investigator

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1995 – 1996

Keywords

bleomycin / Co-bleomycin / radioisotope / malignant tumor / ^<125>I-PIB reagent / ^<125>I-Bolton-Hunter reagent

Research Abstract

It is known that ^<57>Co-bleomycins have the strong affinity for the malignant tumor. Owing to the long-half life (270 days) of ^<57>Co, ^<57>Co-bleomycins have not been used for the clinical diagnosis. Non-radioactive cobalt binding bleomycins (Co-bleomycins) naturally have the strong affinity for the malignant tumor, too.
We intended to label Co-bleomycins with radioisotope (RI) to use for the clinical diagnosis and therapy. Co-bleomycin was easily prepared from bleomycin and cobaltous chloride. As the radioactive reagent for the label, we chose Na^<131>I,^<125>I-Bolton-Hunter reagent and ^<125>I-PIB reagent.
A small quantity of Co-bleomycin labeled with ^<125>I-Bolton-Hunter was obtained, and the tumor affinity of this labeled Co-bleomycin was examined by using Ehrlich tumor bearing mice. Unfortunately, the labeled Co-bleomycin had not the affinity for the malignant tumor.
An adequate quantity for the animal study of Co-bleomycin labeled with ^<125>I-PIB was not obtained and Na^<131>I ⋯▾ More

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