

Institute of Strength Physics and Materials Science
of Siberian Branch Russian Academy of Sciences



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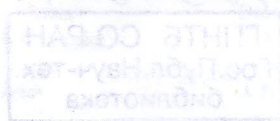
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**Physics of cancer:
interdisciplinary problems and clinical applica-
tions**

May 23-26, 2017
Tomsk, Russia
<http://www.ispms.ru>

Book of Abstracts

**Физика рака: трансдисциплинарные проблемы и
клиническое применение: сб. тез. докл. междунар.
конф. (г. Томск, 23-26 мая 2017 г.) / Институт физики
прочности и материаловедения СО РАН. - Томск:
ИФПМ СО РАН, 2017. - 109 с.**



Tomsk - 2017

P562

direct radiometric also showed higher accumulation of the radiopharmaceutical in the adenocarcinoma cell line BT-474 human breast cancer overexpressing Her-2/neu compared to the control group.

Conclusion: Preclinical studies demonstrated high in vitro stability study compound, as well as its accumulation in the cell group overexpressing Her-2/neu.

MODEL OF DYNAMICS OF DISTRIBUTION OF DRUGS OF BIOLOGICAL TISSUE

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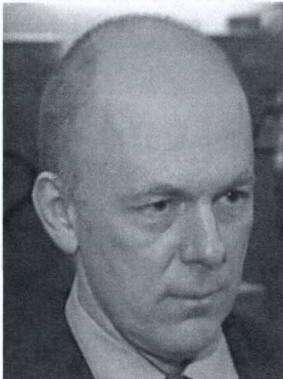
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The dose distribution NRT follows the distribution of ^{10}B in the tissue. Modern models of pharmacokinetics of drugs describe the processes occurring in conditioned "chambers" (blood-organ-tumor), but also do not allow describing the spatial distribution of the drug in the tumor and in normal tissue.

Objective: the mathematical model of the dynamics of the spatial distribution of drugs in the tissue, depending on the concentration of the drug in the blood, was developed.

The modeling method is the representation of the biological structure in the form of a randomly inhomogeneous medium in which the ^{10}B distribution occurs. The parameters of the model, which can't be determined rigorously in the experiment, are taken as quantities subject to the laws of unconnected random processes.

The estimates of the distribution of ^{10}B preparations in tumor and healthy tissue, inside/outside the cells, are obtained.



PERSPECTIVES OF BORON-NEUTRON CAPTURE THERAPY OF MALIGNANT BRAIN TUMORS

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Boron neutron capture therapy (BNCT) is characterized by a selective effect directly on the cells of malignant tumors. The carried out researches have

