

# Upregulation of gastrin and somatostatin receptor after irradiation

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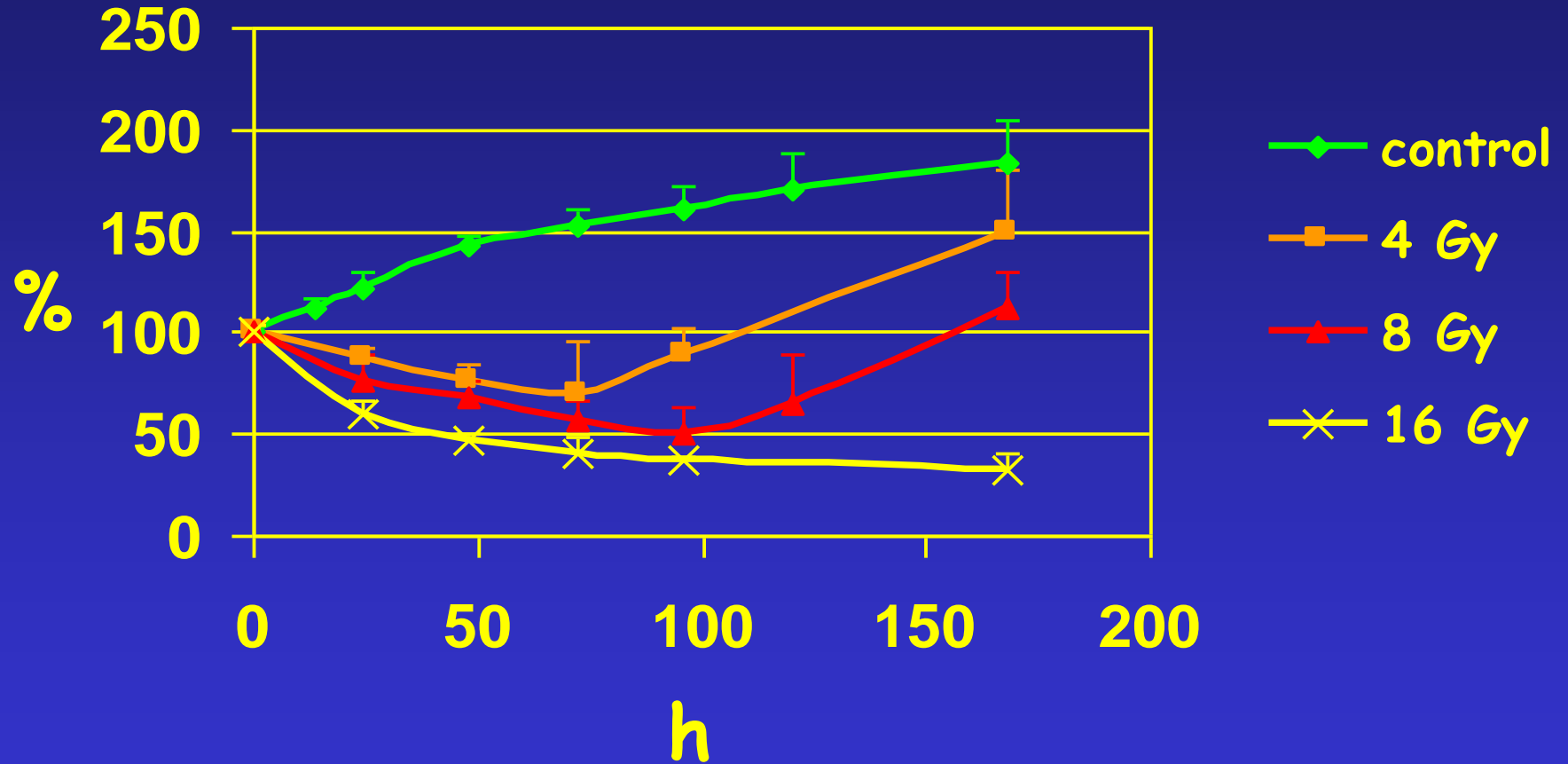
# Methods

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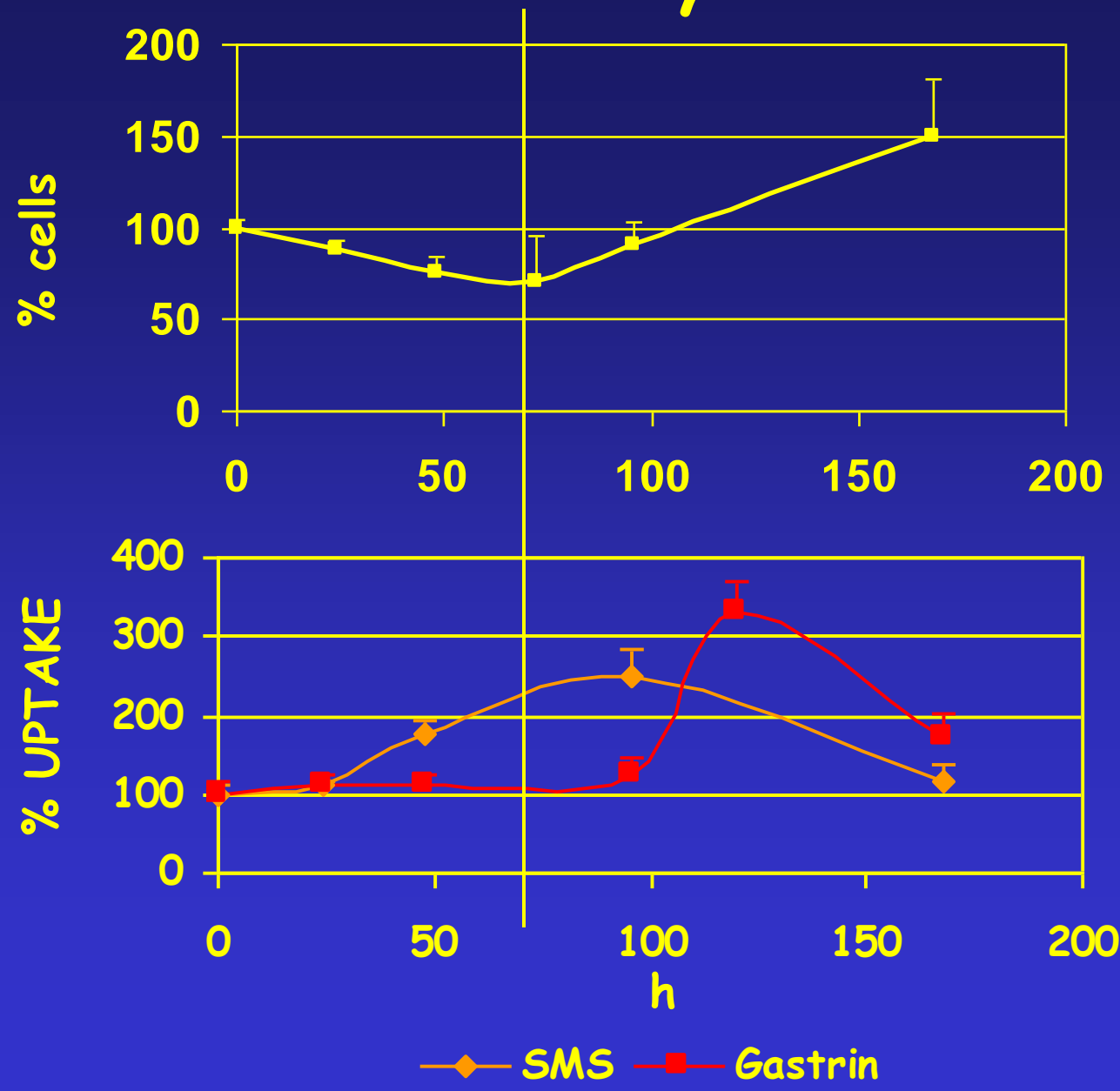
50'000 cells were seeded in 6 well plats and irradiated with  $\gamma$ -rays (4, 8 und 16 Gy) after 48 h

The cells were counted and the specific uptake measured after certain time points

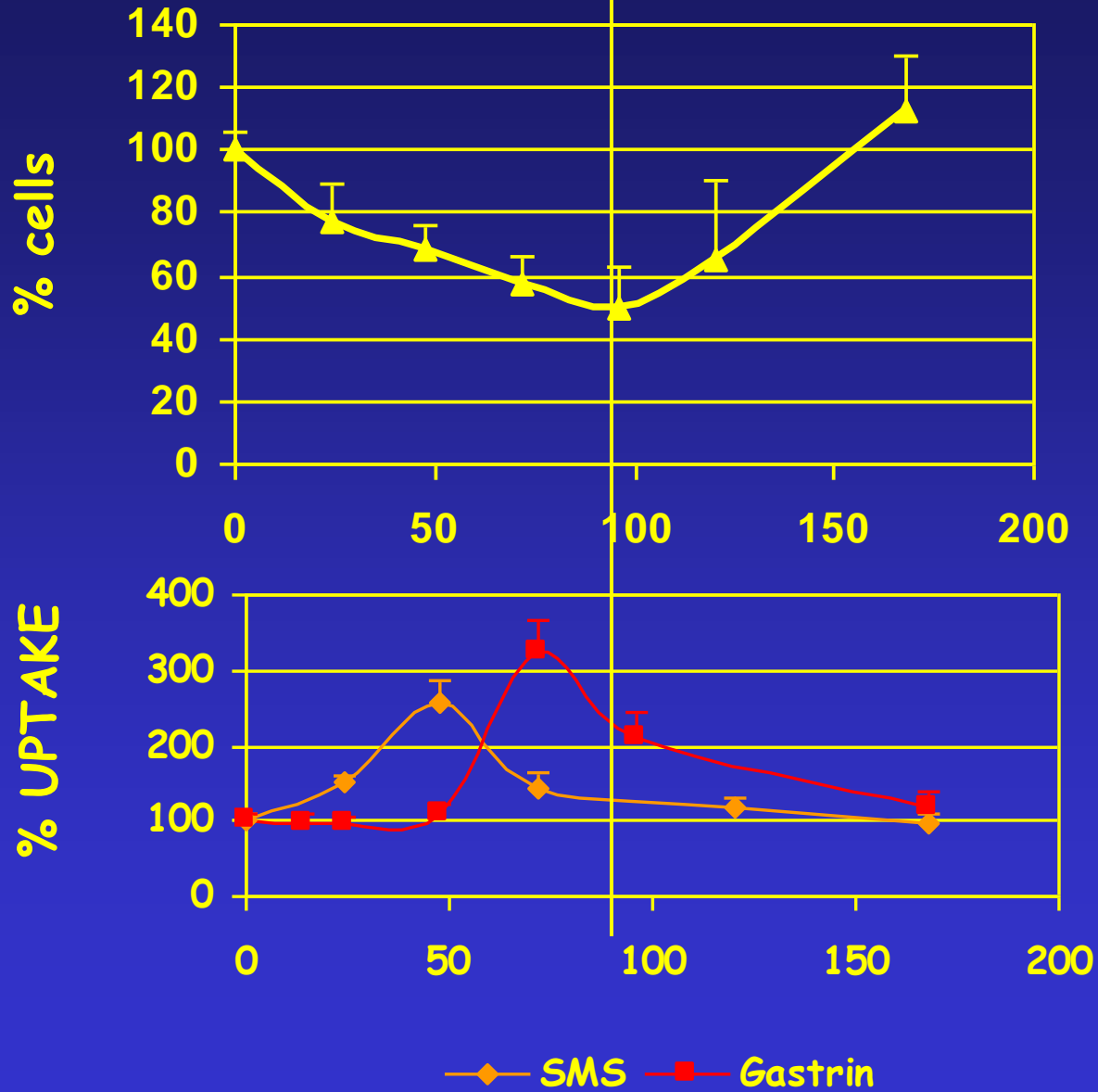
# Results (cell number)



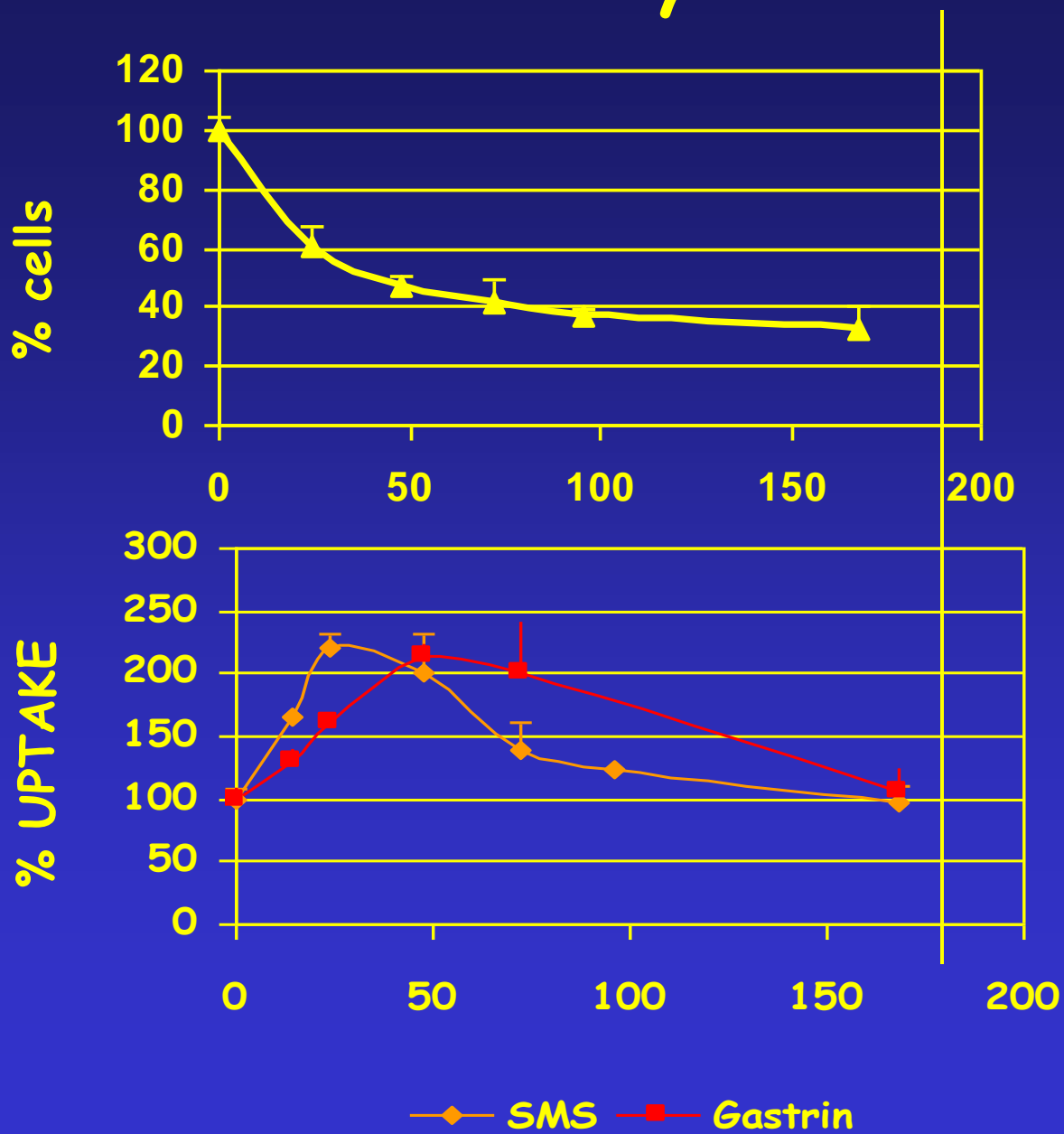
4 Gy



8 Gy



# 16 Gy



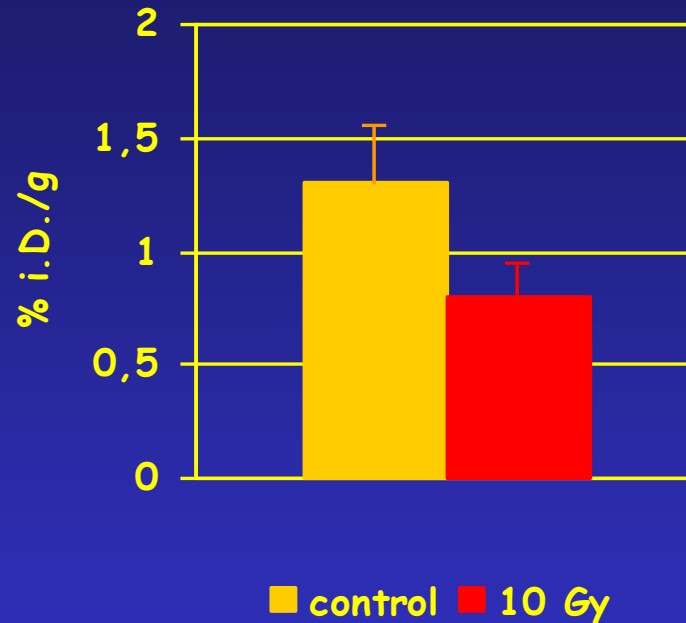
## Methods (in vivo)

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The AR4-2J tumor of 3 bearing mice were irradiated with 10 Gy

A biodistribution was performed after 48 h with In-111-minigastrin and compared with a control group

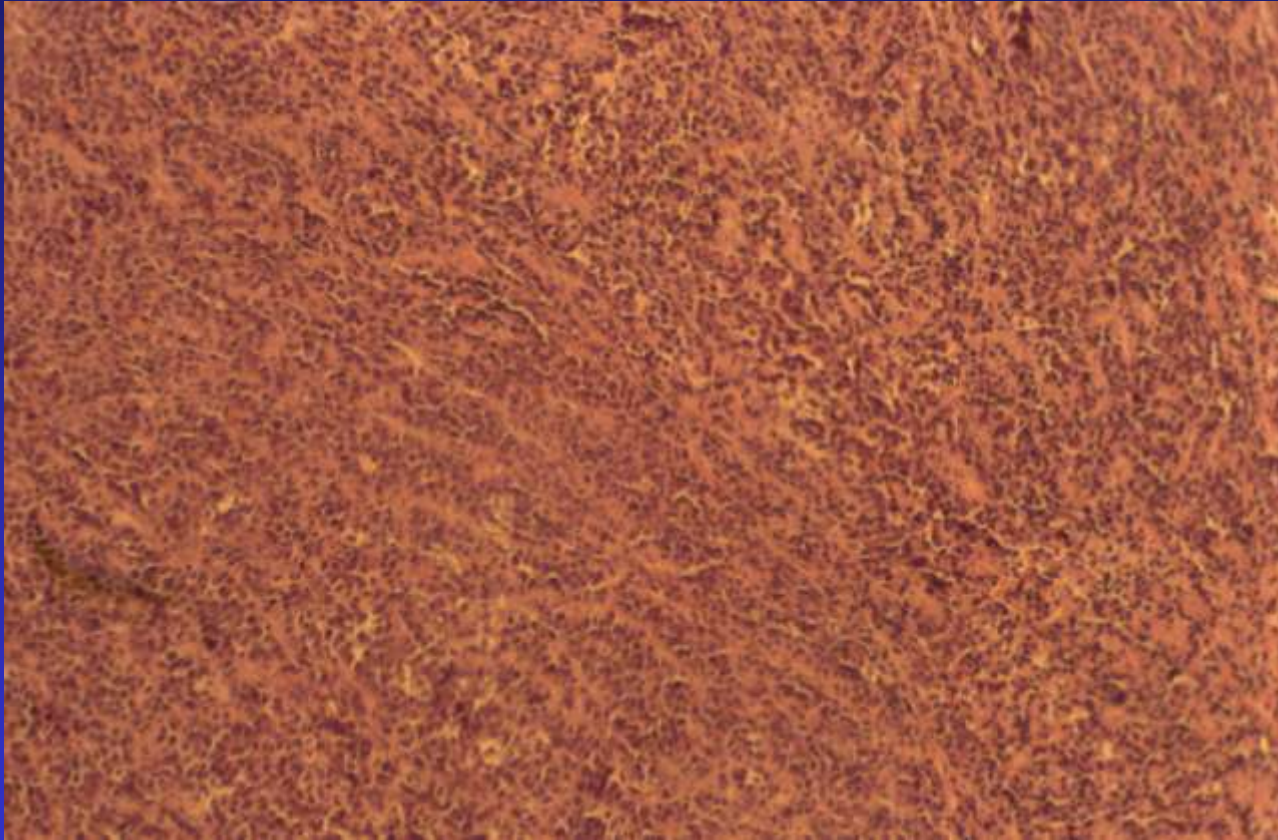
# Results



The uptake in other organs is not significantly different

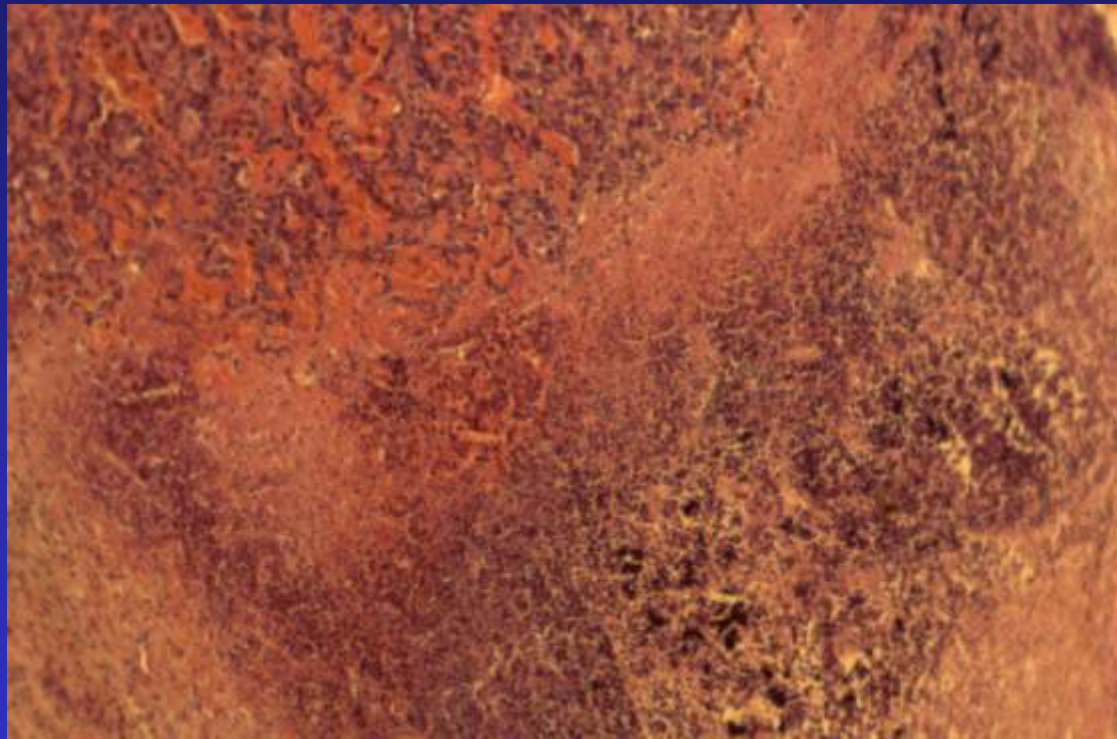
# Results (histology) HE staining

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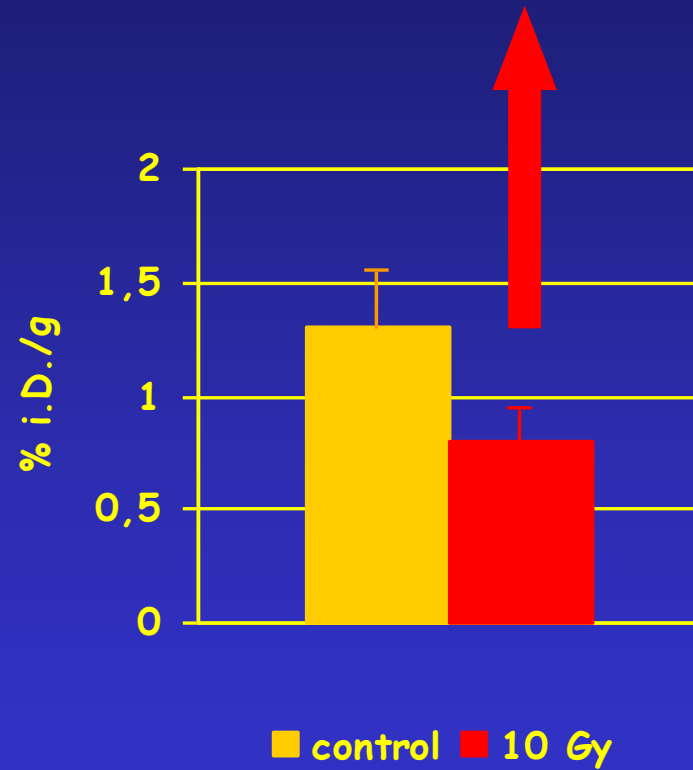
Unirradiated tumour

# Results (histology) HE staining



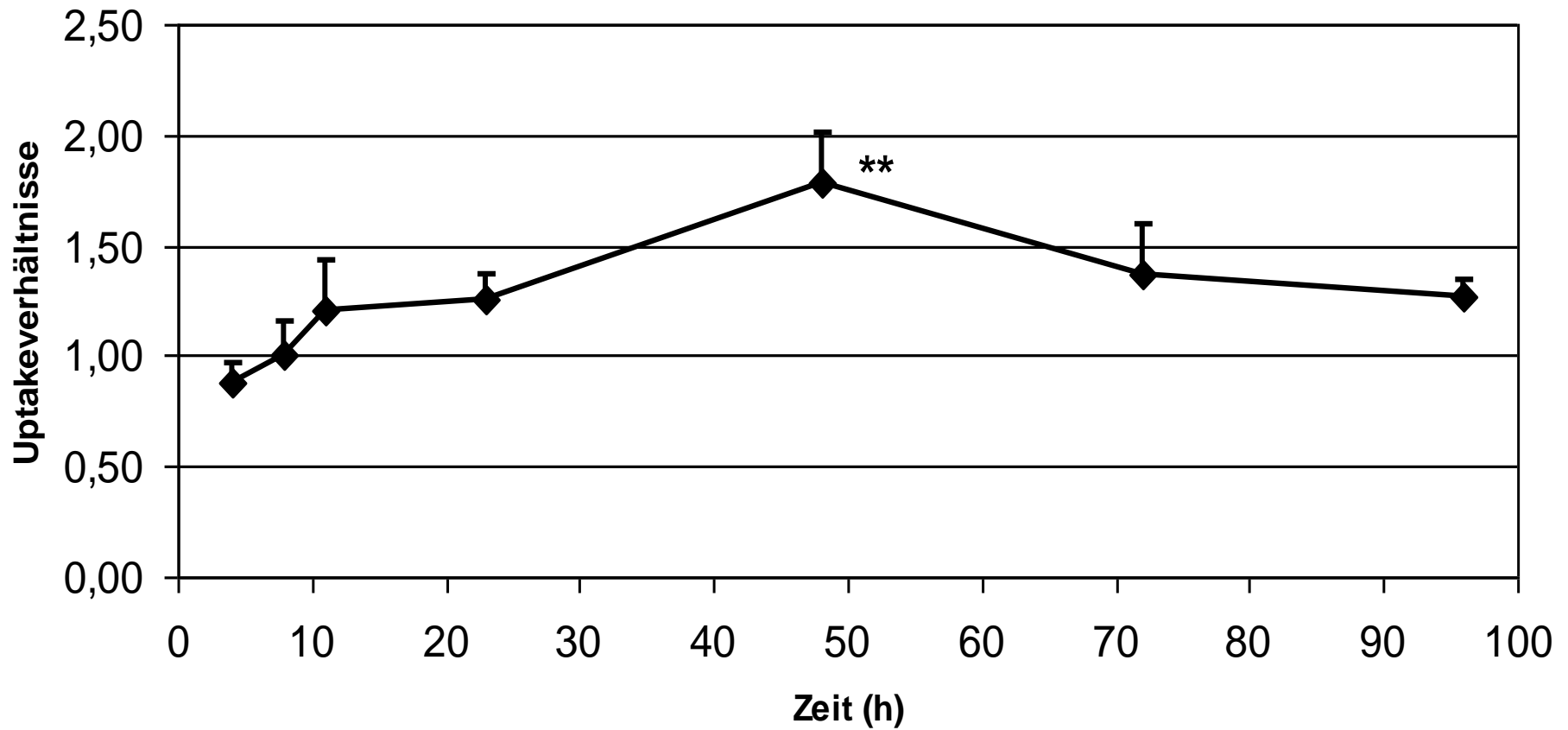
Irradiated tumour (about. 1/3 vital tissue)

# Results

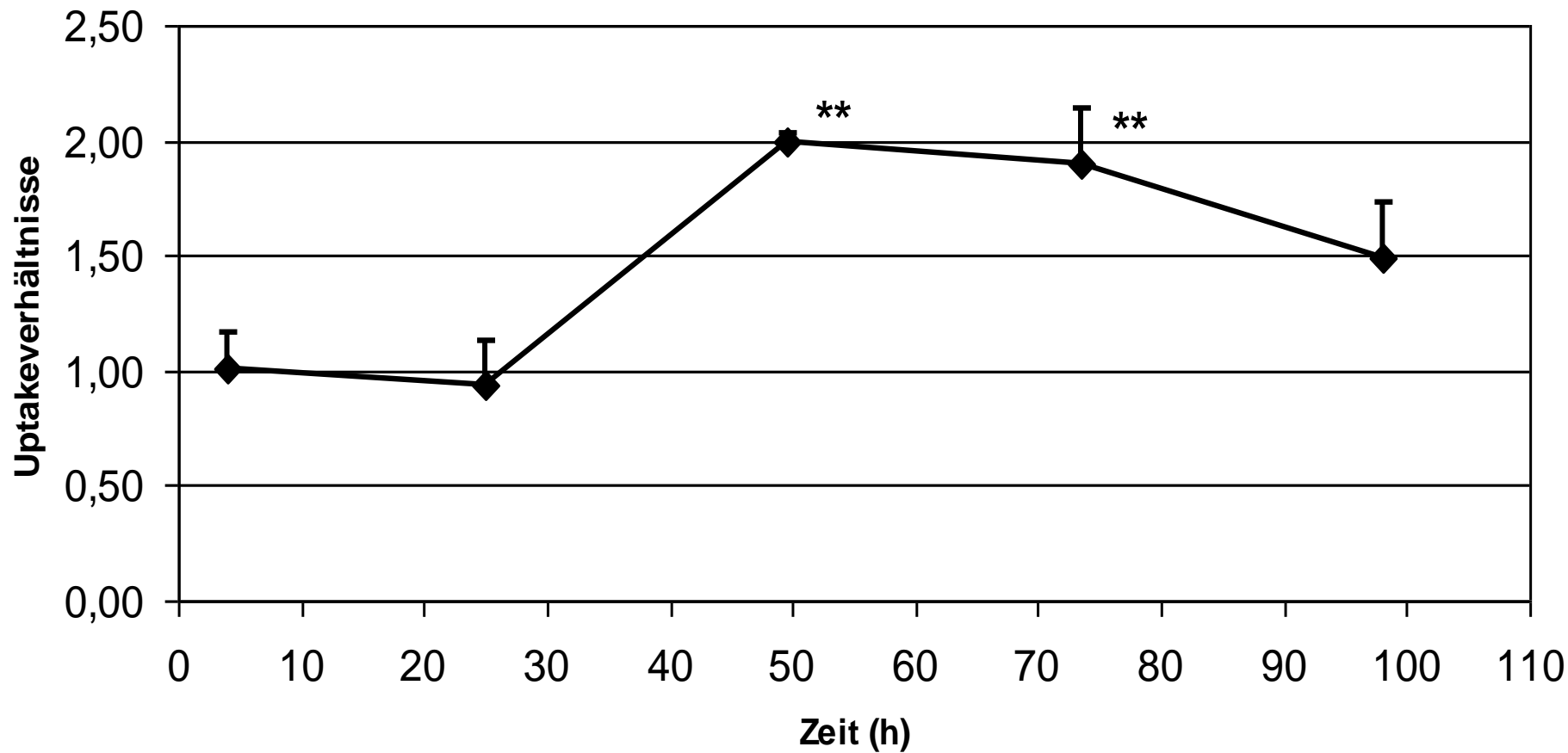


# Chemopharmaceutical

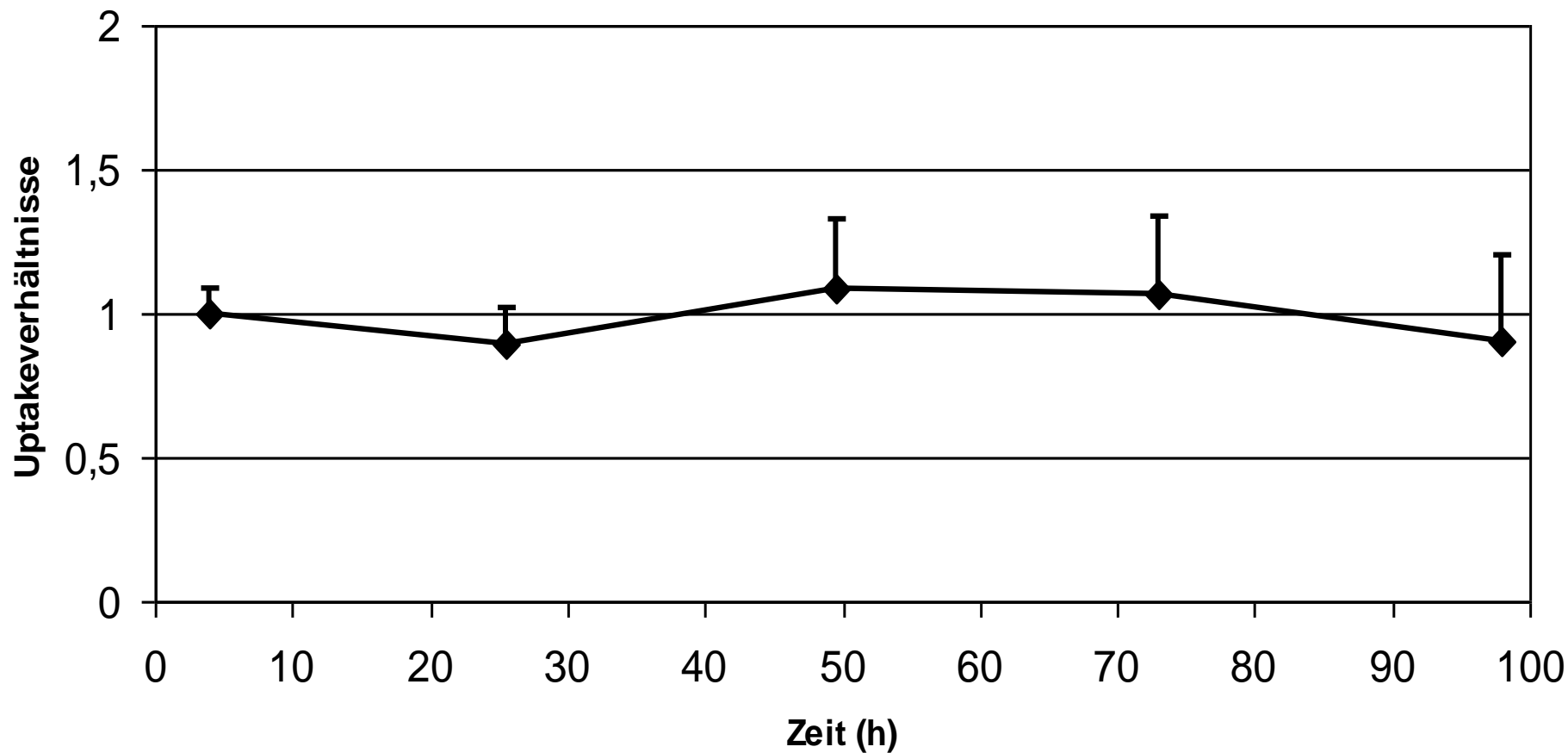
# $^{111}\text{In}$ -DTPA-DGlu<sup>1</sup>-Minigastrin - Vincristin 1 $\mu\text{g}/\text{ml}$



# $^{111}\text{In}$ -DTPA-DGlu<sup>1</sup>-Minigastrin - Paclitaxel 150 $\mu\text{g}/\text{ml}$



# $^{111}\text{In}$ -DTPA-DGlu<sup>1</sup>-Minigastrin - Paclitaxel 100 $\mu\text{g}/\text{ml}$



# Summary

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Gastrin- und somatostatin receptors (subtyp2) were upregulated in vitro after irradiation

The highest upregulation depends on the dosis.

# Future (COST possibilities)

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Verification of the upregulation in vivo

Is it possible to use this findings for radiopeptide therapy?

How can we modulate the receptor expression?

What do we see with radio peptide scintigraphy?

Combination Therapies??????