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Author

Marika Nestor

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Intracellular processing of liposomal targeting agents

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Abstract

The cellular fate of targeted EGF-liposomes has been studied in human A431 carcinoma and U343 glioma cells. This was done by investigating the specificity, uptake, internalisation and retention of ^{125}I-EGF-liposomes and EGF-^{3}H-liposomes. A specific binding of the EGF-liposomes to the EGF receptors was found as the specific binding could be inhibited with excess of non-radiolabelled EGF. The EGF-liposome uptake was found to increase with incubation time. A431 cells displayed a higher EGF-liposome uptake than U343 cells. A majority of the EGF-liposomes were internalised in both cell lines, and the liposomes displayed long retention times, while the ^{125}I attached to EGF was quickly released from the cells. These are promising results for future liposome targeting to the EGFR for both diagnosis and therapy of cancer.

Keywords
Epidermal Growth Factor, EGFR, Tumour Targeting, Liposomes, Carcinoma, Glioma

Supervisors

Erika Bohl Kullberg
Lars Gedda

Examiner

Jörgen Carlsson

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Biology Education Centre Biomedical Center Husargatan 3 Uppsala
Box 592 S-75124 Uppsala Tel +46 (0)18 4710000 Fax +46 (0)18 555217