

Certificate of Attendance

参加証明書

No. B6504

Ref. No. 00551-000

This is to certify that

Aisyah Elliyanti

attended the below meetings/congresses held during 5 - 7 October, 2017
in PACIFICO Yokohama

第57回日本核医学会学術総会
The 57th Annual Scientific Meeting of the Japanese Society of Nuclear Medicine
第37回日本核医学技術学会総会学術大会
The 37th Annual Meeting of the Japanese Society of Nuclear Medicine Technology
第12回アジア・オセアニア核医学会学術会議
The 12th Asia Oceania Congress of Nuclear Medicine and Biology
第7回アジア核医学技術学会国際会議
The 7th Annual International Conference of the Asian Society of Nuclear Medicine Technology
へ参加したことを証明いたします。

2017年10月5日(木)~7日(土)/パシフィコ横浜

Tomio Inoue, President of / 会長 井上 登美夫



第57回日本核医学会学術総会
The 57th Annual Scientific Meeting of the Japanese Society of Nuclear Medicine
第12回アジア・オセアニア核医学会学術会議
The 12th Asia Oceania Congress of Nuclear Medicine and Biology

Hiroshi Watanabe, President of / 大会長 渡邊 浩



第37回日本核医学技術学会総会学術大会
The 37th Annual Meeting of the Japanese Society of Nuclear Medicine Technology

Tetsuro Katafuchi, President of / 会長 片瀨 哲朗



第7回アジア核医学技術学会国際会議
The 7th Annual International Conference of the Asian Society of Nuclear Medicine Technology

Induction of Natrium Iodide Symporter Expression in Breast Cancer Cell Lines

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The 57th Annual Scientific Meeting of the Japanese Society of Nuclear Medicine

- The author has no conflict of interest to disclose with respect to this presentation.

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Introduction

- Natrium iodide symporter (NIS) is an iodide co-transporter in thyroid cell.
- It plays a pivotal role in radioiodine uptake.
- It expresses in thyroid cells and non thyroid cells such as lactating breast cell, gastro-intestine cell as well as breast cancer cell.

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- Adenosine triphosphate (ATP) and epidermal growth factor (EGF) are proliferative agents : as an activate extracellular signal-regulated kinase (ERK) pathway.
- The signaling pathway plays an important roles in regulation of NIS expression.

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The aim of this study

- To investigate the effect of ATP and EGF to the NIS expression in breast cancer cell lines.

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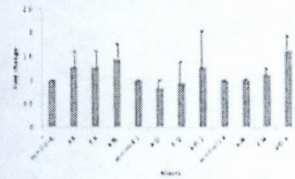
Materials and Methods

- 2 types of cell lines :
 - MCF7 cell line is representing the luminal A subtype
 - SKBR3 cell line is representing the HER2 subtype.
- Hacat cell line, a non-cancer cell, was used as control.
- Cells were treated with ATP, EGF
- The expression of NIS mRNA :
 - quantitative-reverse transcription-polymerase chain reaction (qRT-PCR).
- The NIS protein expression :
 - Immunocytofluoresence.
- survival of the cell post-iodine treatment
 - Clonogenic assay :

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Results

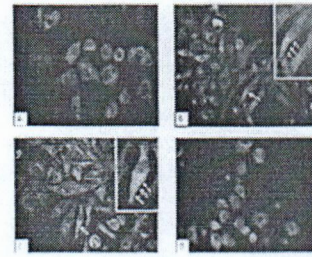
- NIS mRNA expression
- SKBR3 cell line
- A combination treatment of ATP and EGF for 24 hours increases the level of NIS mRNA expression by 1.6 fold higher compare to the untreated cells ($p < 0.05$)
- The treatment of ATP and EGF alone do not increase the level of NIS mRNA expression
- MCF-7 cell line
 - No qPCR product



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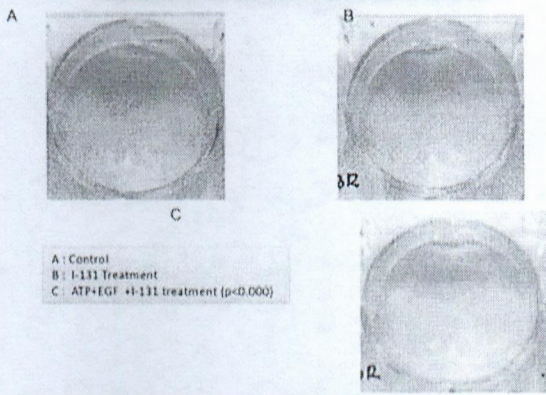
NIS protein expression

- SKBR3 cells
 - The NIS expression in this cells is mostly found in cytoplasm.
- A combination of EGF and ATP increase NIS protein expression at membrane of SKBR3 cells
- we cannot detect NIS protein expression in MCF7 cells.



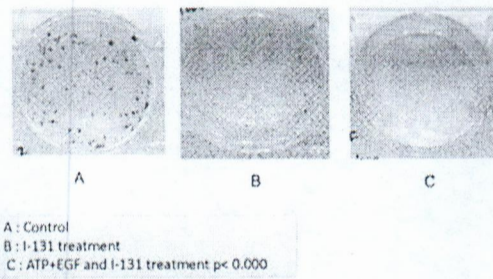
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Clonogenic Assays : SKBR3 Cell Line



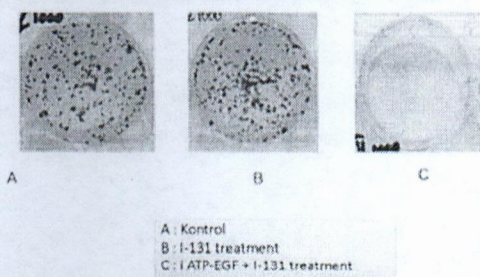
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Clonogenic Assays : MCF7 cell line



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Clonogenic Assays : Hacat Cell Line (control cell)



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Conclusions

- NIS is expressed mostly in cytoplasm of SKBR3 cells : (HER2)
 - A combination treatment of ATP and EGF :
 - increase the expression of NIS mRNA and protein.
 - reduce cell survival significantly.
- MCF7 cell line : (luminal A)
 - do not express NIS mRNA and protein.
 - It has response toward I-131 treatment.
- A significant response of I-131 show in both of breast cancer cells.
- Further studies are needed to cover the role of iodine in breast cancer cell.

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THANK YOU