

# Purification, distribution and clinical significance of TSH-receptor in human thyroid.

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# 1987 Fiscal Year Final Research Report Summary

Purification, distribution and clinical significance of TSH-receptor in human thyroid.

Research Project

## Project/Area Number

61570166

## Research Category

Grant-in-Aid for General Scientific Research (C)

## Allocation Type

Single-year Grants

## Research Field

Experimental pathology

## Research Institution

Kanazawa University

## Principal Investigator

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## Project Period (FY)

1986 – 1987

## Keywords

TSH-receptor / Ras-oncogene product / EGF / EGF-receptor

## Research Abstract

We have attempted to produce an antibody for human TSH-receptor. Using this antibody, distribution and changes in distribution of TSH-receptor was examined. First, we attempted to purify the TSH-receptor antibody using the serum of patients with high titer of TSH-receptor antibody. The serum containing high titer of TSH-receptor antibody and porcine thyroid membrane fraction were incubated. The binding IgG was released by acidic buffer and released IgG was further purified with IgG affinity chromatography. Using this IgG the localization of TSH-receptor was examined in human thyroid follicular cells. The positive staining was observed at the apical plasma membrane. The only one band was found at Mol. wt 130,000 using the immunoblotting. We also examined the ultrastructural localization of ras p21 product, which participates on GTP regulation of adenylate cyclase. Similar finding that ras p21 product was localized at apical cell membrane was obtained. Epidermal growth factor (EGF) and EGF-receptor were also examined immunohistochemically in

human thyroid. These combined evidences strongly suggested that TSH-receptor is restricted at apical plasma membrane of thyroid follicular cells. The changes in distribution of TSH-receptro in various thyroid diseases have been studied at present.

# Research Products (2 results)

AllOther

AllPublications (2 results)

[Publications] Mizukami Y;Nonomura A;Hashimoto T;Terahata S;Matsubara F;Michigishi T;Noguchi M: CANCER. 61. (1988)▼

[Publications] Mizukami Y, Nonomura A, Hashimoto T, Terahata S, Matsubara F, Michigishi T, Noguchi M.: "Immunohistochemical demonstration of ras p21 oncogene product in normal, benign, and malignant human thyroid tissues." Cancer. 61. (1988)▼

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