



Working Group on the Organization and  
Methodology of Endocrinology Laboratories

Bonn, 25-28 November 1980

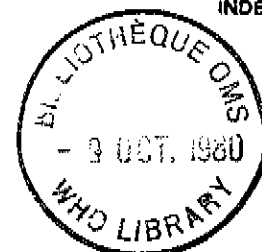
ICP/ATH 006/8  
30 September 1980

ORIGINAL: ENGLISH

INDEXED

AREAS FOR FUTURE RESEARCH

by  
Professor Manuel Judice Halpern  
Department of Biochemistry  
Faculty of Medical Sciences Campo de Santana  
Lisbon, Portugal



The future of endocrinological analysis lies not only in the improvement of quantification techniques but also in the study of associated factors such as hypophyseal tropins, hypothalamic release, metabolites, carriers, free and bound hormones, receptors, target cells, catabolic rate, etc.

We shall analyse some of the points.

1. Hormone quantification

1.1 Considerable developments may be anticipated with regard to the following techniques:

1.1.1 Immunoassay - RIA, EIA (Elisa, Emit, FIA)

1.1.2 Fluorometry or spectrophotometry after column chromatography

1.1.3 HPLC associated or not with mass spectrometry

1.1.4 HPTLC

1.2 It will be important to develop techniques to distinguish indigenous from exogenous hormones

1.3 Sometimes the study of certain consequences of hormone deregulation will be more important than hormonal quantification.

2. Quantification of factors influencing hormone synthesis

2.1 Hypophyseal tropins

2.2 Hypothalamic factors

2.3 Regulatory action of metabolites

3. Carriers

3.1 Carriers

3.2 Free hormones

3.3 Bound hormone

3.4 Hormone-carrier kinetics

The issue of this document does not constitute formal publication. It should not be reviewed, abstracted or quoted without the agreement of the World Health Organization Regional Office for Europe. Authors alone are responsible for views expressed in signed articles.

Dieses Dokument erscheint nicht als formelle Veröffentlichung. Es darf nur mit Genehmigung des Regionalbüros für Europa der Weltgesundheitsorganisation besprochen, in Kurzfassung gebracht oder zitiert werden. Beiträge, die mit Namensunterschrift erscheinen, geben ausschliesslich die Meinung des Autors wieder.

Ce document ne constitue pas une publication. Il ne doit faire l'objet d'aucun compte rendu ou résumé ni d'aucune citation sans l'autorisation du Bureau régional de l'Europe de l'Organisation Mondiale de la Santé. Les opinions exprimées dans les articles signés n'engagent que leurs auteurs.

Настоящий документ не является официальной публикацией. Не разрешается рецензировать, аннотировать или цитировать этот документ без согласия Европейского регионального бюро Всемирной организации здравоохранения. Вся ответственность за взгляды, выраженные в подписанных авторами статьях, несут сами авторы.

4. Receptors

- 4.1 Quantity and nature of receptors in target cells
- 4.2 Distinction between slow and fast receptors
- 4.3 Hormone-receptor kinetics
- 4.4 Indirect methods to study receptor action

5. Interaction of hormone + receptor - target cell

- 5.1 Second messenger freed by membrane receptors
- 5.2 Intermediates formed by cytosol receptors
- 5.3 Rate of synthesis and decomposition of messengers

6. Catabolites

- 6.1 Hormone catabolites are no longer studied as indices of hormone quantity
- 6.2 Catabolite determination could be very useful in studying rates of hormone decomposition.