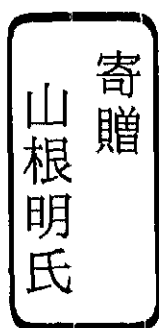


DB
1812 (HG)
2001

Roles of Insulin-Like Growth Factors and
Their Binding Proteins
in Mouse Tongue Myogenesis

A Dissertation Submitted to
the Graduate School of Life and Environmental Sciences,
the University of Tsukuba
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy in Science



Akira YAMANE

02304217

TABLE OF CONTENTS

Abbreviations	1
Abstract	2
General Introduction	7
Materials and Methods	13
Tissue	14
Tongue organ culture	14
RNA extraction	15
Reverse transcription	15
Competitive polymerase chain reaction	16
Immunohistochemistry	17
Statistical analysis	19
Part 1.	
Differentiation and Maturation of Tongue Striated Muscles	20
Results	21
Discussion	24
Part 2.	
nAChR Subunit Elimination and Switch in Tongue Striated Muscles	28
Results	29
Discussion	32

Part 3.

Expressions of IGF-I, II and Their Receptors during Development of

Tongue	35
Results	36
Discussion	39

Part 4.

Effects of IGF-I, IGFBP4, 5, 6 and des(1-3)IGF-I on Differentiation of Cultured

Tongue Myoblasts	42
Results	43
Discussion	49

General Discussion	53
---------------------------------	----

Acknowledgements	57
-------------------------------	----

References	59
-------------------------	----

Tables	72
---------------------	----

Figures and Legends	75
----------------------------------	----