

## CONTENTS

### Gene Therapy for the Inner Ear: Challenges and Promises

Ryan, A.F.; Dazert, S.

### Therapeutic Regulation of Gene Expression in the Inner Ear using RNA Interference

Maeda, Y.; Sheffield, A.M.; Smith, R.J.H.

### Gene Therapy of the Inner Ear Using Adenovirus Vectors

Husseman, J.; Raphael, Y.

### Repair of the Vestibular System via Adenovector Delivery of Atoh1: a Potential Treatment for Balance Disorders

Baker, K.; Brough, D.E.; Staecker, H.

### Gene Therapy and Stem Cell Transplantation: Strategies for Hearing Restoration

Kesser, B.W.; Lalwani, A.K.

### Adenoviral and AAV-Mediated Gene Transfer to the Inner Ear: Role of Serotype, Promoter, and Viral Load on *in vivo* and *in vitro* Infection Efficiencies

Luebke, A.E.; Rova, C.; Von Doersten, P.G.; Poulsen, D.J.

### Cellular Targeting for Cochlear Gene Therapy

Ryan, A.F.; Mullen, L.M.; Doherty, J.K.

## Author Index/Subject Index

Advances in Oto-Rhino-Laryngology, Vol. 66

### Gene Therapy of Cochlear Deafness

Present Concepts and Future Aspects

Editor: Ryan, A.F. (La Jolla, Calif.)

VI + 120 p., 28 fig., 12 in color, 5 tab., hard cover, 2009

CHF 129.- / EUR 92.- / USD 129.00

ISBN 978-3-8055-9035-8

e-ISBN 978-3-8055-9036-5

Prices subject to change

EUR price for Germany, USD price for USA only

[www.karger.com/adorl](http://www.karger.com/adorl)

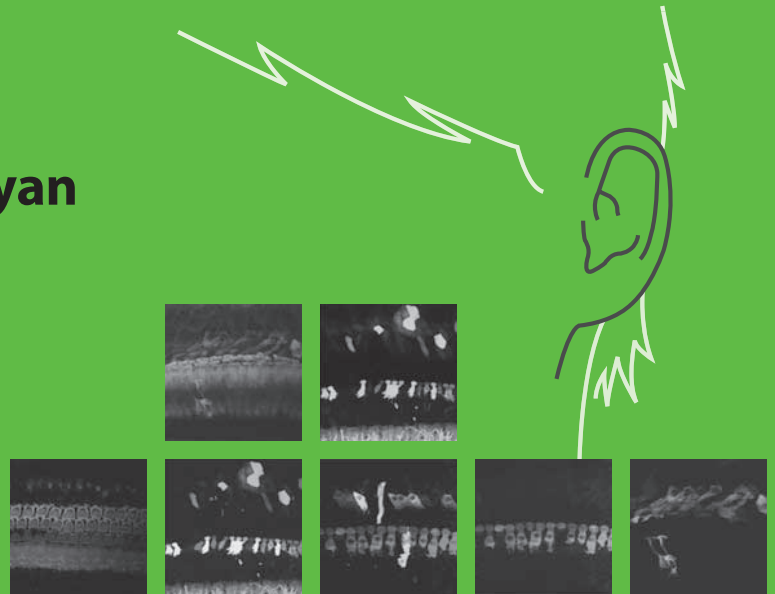
## A review of recent findings

# Gene Therapy of Cochlear Deafness

## Present Concepts and Future Aspects

Editor

**A.F. Ryan**



Gene therapy holds great potential for the treatment not only of genetic disorders, but also of many acquired diseases. This is as true for the inner ear as for any other organ. However, the technical challenges that must be overcome before gene therapy becomes more widely used are remarkable. In the inner ear the size, accessibility, delicacy and the involvement of many different cell types present unique conditions.

This volume reviews current concepts and recent research findings of the application of gene therapy to the inner ear. Various forms of gene therapy, disorders that are potential targets for gene therapy, techniques for gene delivery, and mechanisms of gene targeting, and also obstacles that have yet to be overcome are discussed.

This volume will be indispensable reading for otolaryngologists, hearing scientists, audiologists with a special interest in keeping up-to-date on gene therapy for inner ear disorders.

*Fields of Interest: Otorhinolaryngology; Communication Disorders; Genetics; Audiology, Genomics, Molecular Biology, Neurobiology*

**KARGER**

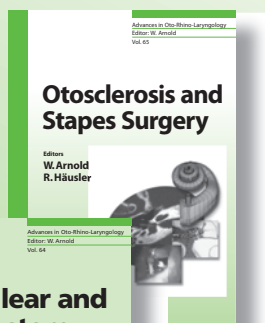
Presents complete coverage  
from basic research to clinical studies

# Advances in Oto- Rhino-Laryngology

Series Editor: **W. Arnold** (München)

ISSN 0065-3071, e-ISSN 1662-2847

Material for each volume in this series has been skillfully selected to document the most active areas of otorhinolaryngology and related specialties, such as neuro-otology and oncology. The series reproduces results from basic research and clinical studies pertaining to the pathophysiology, diagnosis, clinical symptoms, course, prognosis and therapy of a variety of ear, nose and throat disorders. The numerous papers correlating basic research findings and clinical applications are of immense value to all specialists engaged in the ongoing efforts to improve management of these disorders. Acting as a voice for its field, the series has also been instrumental in developing subspecialties into established specialties.



Vol. 65

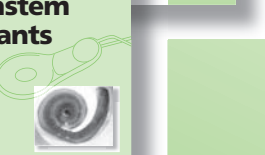
## Otosclerosis and Stapes Surgery

Editors: Arnold, W. (Munich); Häusler, R. (Bern)

XII + 378 p., 115 fig., 17 in color, 40 tab., hard cover, 2007

CHF 288.- / EUR 205.50 / USD 288.00

ISBN 978-3-8055-8113-4, e-ISBN 978-3-318-01343-6



Vol. 64

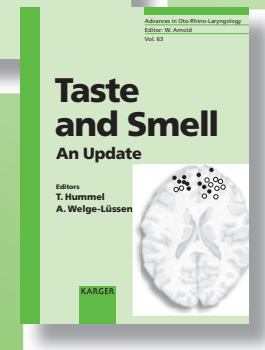
## Cochlear and Brainstem Implants

Editor: Møller, A.R. (Dallas, Tex.)

VIII + 228 p., 84 fig., 9 in color, 4 tab., hard cover, 2006

CHF 209.- / EUR 149.50 / USD 209.00

ISBN 978-3-8055-8157-8, e-ISBN 978-3-318-01380-1



Vol. 63

## Taste and Smell An Update

Editors: Hummel, T. (Dresden); Welge-Lüssen, A. (Basel)

VIII + 294 p., 33 fig., 1 in color, 12 tab., hard cover, 2006

CHF 226.- / EUR 161.50 / USD 226.00

ISBN 3-8055-8123-8, ISBN 978-3-8055-8123-3

**Vol. 1-62 available, please ask for details**

### Indexing/Abstracting

'Advances in Oto-Rhino-Laryngology' volumes are listed in bibliographic services including Current Contents®, Index Medicus/MEDLINE, Biological Abstracts.

Prices subject to change

EUR price for Germany, USD price for USA only

[www.karger.com/adorl](http://www.karger.com/adorl)

To be ordered through:

## Order Form

## Advances in Oto-Rhino-Laryngology

Please send:

copy/ies: Vol. 66:  
**Gene Therapy of Cochlear Deafness**  
Present Concepts and Future Aspects  
CHF 129.- / EUR 92.- / USD 129.00  
ISBN 978-3-8055-9035-8  
e-ISBN 978-3-8055-9036-5

copy/ies: ISBN 978-3-8055-

The book series **Advances in Oto-Rhino-Laryngology** on continuation beginning with Vol.

information on **vols. 1-62**

All Karger series are available on continuation. Each new volume will be sent upon publication until order is countermanded.

**For easy ordering or information about other Karger publications log on to: [www.karger.com](http://www.karger.com)**

## Payment

Postage and handling free with prepayment

Please charge this order to my credit card

American Express  Diners  Visa  
 Eurocard  MasterCard

Card No.:

Exp. date:

CVV/CVC

3 digits in the signature field on the back of Visa and MasterCard

Check enclosed  Please bill me

Name/Address (please print):

Date:

Signature:

Orders can be placed at agencies, bookstores, directly with the publisher, or with any Karger distributor.

**S. Karger AG, P.O. Box, 4009 Basel (Switzerland)**  
**Fax +41 61 306 12 34, E-Mail [orders@karger.ch](mailto:orders@karger.ch)**  
USA: S. Karger Publishers, Inc., 26 West Avon Road,  
P.O. Box 529, Unionville, CT 06085 (USA),  
Toll free: 1-800-828-5479

Germany: S. Karger GmbH, 79095 Freiburg  
France: Librairie Médi-Sciences, 75007 Paris  
Gulf Council Countries, Iran, Middle East,  
North Africa, Turkey: Trans Middle East Internat.  
Distribution Co. Ltd., KaSha, Amman 11953 (Jordan)  
Japan: Karger Japan, Inc., Tokyo 113-0034  
China, Hong Kong, Taiwan, Malaysia, Indonesia:  
Karger China, Shanghai 200040 (China)

**For details and further representatives and agencies see [www.karger.com/worldwide](http://www.karger.com/worldwide)**

**KARGER**