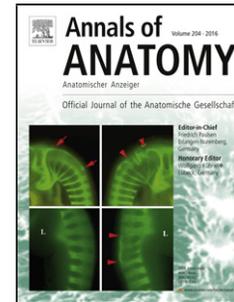


Accepted Manuscript

Title: Anatomical features for the adequate choice of experimental animal models in biomedicine: I. Fishes

Author: Livia D'Angelo Laura Lossi Adalberto Merighi
Paolo de Girolamo



PII: S0940-9602(16)30022-X
DOI: <http://dx.doi.org/doi:10.1016/j.aanat.2016.02.001>
Reference: AANAT 51013

To appear in:

Received date: 15-7-2015
Revised date: 1-12-2015
Accepted date: 1-2-2016

Please cite this article as: D'Angelo, L., Lossi, L., Merighi, A., de Girolamo, P., Anatomical features for the adequate choice of experimental animal models in biomedicine: I. Fishes, *Annals of Anatomy* (2016), <http://dx.doi.org/10.1016/j.aanat.2016.02.001>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Anatomical features for the adequate choice of experimental animal models in biomedicine: I. Fishes

Livia D'Angelo^{a,*}, Laura Lossi^{b,c}, Adalberto Merighi^{b,c}, Paolo de Girolamo^a

^aDepartment of Veterinary Medicine and Animal Productions, University of Naples Federico II, Naples, Italy

^bUniversity of Turin, Department of Veterinary Sciences, Turin, Italy

^cINN, Istituto Nazionale di Neuroscienze, Turin, Italy

ABSTRACT

Fish constitute the oldest and most diverse class of vertebrates, and are widely used in basic research due to a number of advantages (e.g., rapid development ex-utero, large-scale genetic screening of human disease). They represent excellent experimental models for addressing studies on development, morphology, physiology and behaviour function in other related species, as well as informative analysis of conservation and diversity. Although less complex, fish share many anatomical and physiological features with mammals, including humans, which make them an important complement to research in mammalian models.

In this review we describe and compare the most relevant anatomical features of the most used teleostean species in research, to be taken into consideration when selecting an animal model: zebrafish (*Danio rerio*), medaka (*Oryzias latipes*), the turquoise killifish (*Nothobranchius furzeri*), and goldfish (*Carassius auratus*).

Zebrafish and medaka are the mainstream models for genetic manipulability and studies on developmental biology; the turquoise killifish is an excellent model for aging research; goldfish has been largely employed for neuroendocrine studies.

*Corresponding author at : livia.dangelo@unina.it; tel.+39 0812536132; via F. Delpino, 1, I-80137, Naples, Italy

Download English Version:

<https://daneshyari.com/en/article/8460816>

Download Persian Version:

<https://daneshyari.com/article/8460816>

[Daneshyari.com](https://daneshyari.com)