Review

History and development of *The Journal of Toxicological Sciences*

Akira Naganuma

Laboratory of Molecular and Biochemical Toxicology, Graduate School of Pharmaceutical Sciences,
Tohoku University, Aoba-ku, Sendai, Miyagi 980-8578, Japan

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ABSTRACT — *The Journal of Toxicological Sciences*, published by The Japanese Society of Toxicology (JSOT), is an international scientific journal covering the entire field of toxicology. This article reviews the history of *The Journal of Toxicological Sciences* as well as actions taken by the Editorial Committee to improve the journal and the results of these initiatives.

Key words: J. Toxicol. Sci., Fundam. Toxicol. Sci., Journal, Toxicology

INTRODUCTION

The Journal of Toxicological Sciences (J. Toxicol. Sci.; hereafter, *JTS*) is an international journal published by The Japanese Society of Toxicology. *JTS* publishes important findings on the toxicity of substances found in pharmaceuticals, food additives, food contaminants, environmental pollutants and other materials, as well as research on their mechanisms of expression. Worldwide, there are more than 100 scientific journals focused on toxicology, but many of these were started as the field of toxicology expanded, and they have a relatively short history. By contrast, *JTS* has a long 40-year history and has been a significant contributor to the development of toxicology as a discipline. This article reviews the history of *JTS* as well as actions taken by the Editorial Committee to improve the journal and the results of these initiatives.

HISTORY OF *JTS*

JTS was founded in 1976 by the Toxic Action Research Group (TARG). In 1981, TARG became the Japanese Society of Toxicological Sciences and was renamed the Japanese Society of Toxicology in 1997. The Society of Toxicology, the world's largest toxicology-related association, publishes a scientific journal *Toxicological Sciences*. Because the name is similar to that of *JTS*, the two journals are often confused with each other. However, *Toxicological Sciences* is still relatively new, having been founded in 1998. The launch of *JTS* predates that of

Toxicological Sciences by 22 years. Fig. 1 shows the first issue of *JTS* and Fig. 2 is the journal's current cover page.

Fig. 1. Cover page of inaugural issue of *JTS*.

Fig. 2. Current cover page of *JTS*.

JTS has had seven editors-in-chief since its founding. Their names are listed below. Each has contributed significantly to improving the journal.

Tsuneoyoshi Tanabe	(1976-1987)
Morio Kanno	(1987-1993)
Tetsuya Kamataki	(1993-1996)
Kimio Kariya	(1996-1999)
Takemi Yoshida	(1999-2004)
Akira Naganuma	(2005-2013)
Toshiyuki Kaji	(2014-Present)

Correspondence: Akira Naganuma (E-mail: naganuma@m.tohoku.ac.jp)

JTS was originally published quarterly, but the number of annual issues was increased to five in 2006 and to six in 2009. In 2001, an open access system was adopted, enabling all papers in *JTS* to be downloaded free of charge. This marked the inauguration of the online version, which is published in parallel with the traditional hard-copy edition.

ACTIONS TO REDUCE LEAD-TIME ON PUBLICATION OF SUBMITTED PAPERS

The Editorial Committee has taken various steps to make *JTS* more convenient for authors. An especially important objective for the Committee was to reduce the lead-time on article publication. One of the first actions taken to reduce the review period following manuscript submission was to introduce SciEd® (Scientific Journal Editing System), a review system developed by Sendai Kyodo Printing Co., Ltd. The amount of time taken by referees to review submitted papers was cut in half. As a result, the time required to review papers was reduced from 64 days in 2005 to 37 days in 2008. Since then it has been further reduced to 19 days. The handling of pre-publication reviews varies considerably across the globe, but on a comparative basis, we believe the improvements made at *JTS* have been substantial. A major barrier to reducing the interval from submission to approval for publication is the time required by authors to revise their manuscripts following requests from referees after the initial review. The amount of time required by authors to complete revisions varies from one individual to another and there is nothing much the Editorial Committee can do about this. The Committee therefore looked at ways to reduce the amount of time from approval to publication. The first step was to reexamine and simplify the editing and publication process. However, because the journal is published at two-monthly intervals, there can be a time lag of up to two months before publication. To overcome this, articles approved for publication are uploaded to the web as soon as the editing process is completed. The volume number, issue number and page numbers of each article are determined and shown on the web prior to publication of the hard-copy edition, largely resolving the problems posed by alternate-month publication. These initiatives have substantially reduced the time lag from approval to release.

As a result of these actions by the Editorial Committee, the number of manuscripts submitted annually to *JTS* has increased from 36 in 2005 to 288 in 2015, representing a roughly eight-fold increase in the space of 10 years (Fig. 3). Citations of papers published in *JTS*

have also been growing (Fig. 4). In recent years, the number of papers published annually in the journal has averaged around 100. Among these, the most highly cited papers have been the following.

- Induction of mesothelioma in p53[±] mouse by intraperitoneal application of multi-wall carbon nanotube (Takagi *et al.*, 2008).
- Induction of mesothelioma by a single intrascrotal administration of multi-wall carbon nanotube in intact male Fischer 344 rats (Sakamoto *et al.*, 2009).
- Endocrine disruption induced by organotin compounds; organotins function as a powerful agonist for nuclear receptors rather than an aromatase inhibitor (Nakanishi, 2008).
- Acute toxicity of pharmaceutical and personal care products on freshwater crustacean (*Thamnocephalus platyurus*) and fish (*Oryzias latipes*) (Kim *et al.*, 2009).
- Cytotoxicity of nanoparticles independent from oxidative stress (Fröhlich *et al.*, 2009).

Fig. 3. Number of manuscripts submitted to *JTS* annually.

Fig. 4. Number of *JTS* articles cited annually.

LAUNCH OF SISTER PUBLICATION, FUNDAMENTAL TOXICOLOGICAL SCIENCES

In recent years, the majority of papers published in *JTS* have focused on the elucidation of mechanisms. Very few deal solely with the toxicity of specific chemical substances. However, toxicity data related to chemical substances form the basis of toxicology research and have considerable information value. Recognizing this, JSOT launched *Fundamental Toxicological Sciences* (*Fundam. Toxicol. Sci.*; hereafter, *FTS*) in 2014 as an open-access journal (with no hard-copy edition) to publish articles dealing with the toxicity of chemical substances and related subjects. *FTS* covers the broad sweep of toxicology research, publishing findings on the toxicity of chemical substances found in pharmaceuticals, food additives, food contaminants, environmental pollutants, natural ingredients and other materials, as well as their impact on various indices. It also includes evaluations of substance safety and articles on research methodologies. Articles for publication are determined by peer-review with the decision to publish or reject usually being made within two weeks after submission. Because authors are not required to revise their manuscripts, the average lead-time from submission to approval for publication is a very short 6.8 days. Once an article has been approved for publication and page charges paid, it is posted on the website. As a

result, the time from submission to release averages 26.3 days. We hope that researchers will make extensive use of *FTS* as a forum for publication of toxicity-related data.

Conflict of interest---- The authors declare that there is no conflict of interest.

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