



Editorial

Gene Wiki Reviews: Marrying crowdsourcing with traditional peer review

Andrew I. Su^{a,*}, Benjamin M. Good^a, Andre J. van Wijnen^{b,c}^a Department of Molecular and Experimental Medicine, The Scripps Research Institute, La Jolla, CA 92037, USA^b Department of Orthopedic Surgery, Mayo Clinic, Rochester, MN 55905, USA^c Department of Biochemistry and Molecular Biology, Mayo Clinic, Rochester, MN 55905, USA

ARTICLE INFO

Article history:

Accepted 29 August 2013

Available online 5 September 2013

Keywords:

Gene Wiki

Genetics

Publishing

Crowdsourcing

Technologies for genome-scale profiling are increasingly common in biological research, ranging from RNA-seq to gene expression microarrays to exome sequencing to mass spectrometry-based proteomics. These experiments make it exceptionally easy to identify a list of candidate genes that are differentially regulated in a biological system of interest.

Candidate gene lists are often dominated by genes that are unfamiliar to any single researcher, so interpreting their significance usually requires a time-consuming and laborious search into the primary literature. Review articles can be useful tools to quickly gain a basic understanding of a new field, but the availability of a recent review article on any given gene or protein is currently quite limited.

Recently, there has been a growing interest in using “crowdsourcing” to organize biological knowledge. In particular, the Gene Wiki has the goal of creating a collaboratively-written, community-reviewed and continuously-updated review article for every human gene (Huss et al., 2008). The Gene Wiki currently exists as an informal collection of ~10,000 gene-specific articles in the online encyclopedia, Wikipedia. Every month, these articles are collectively viewed millions of times and edited thousands of times.

Contributors to the Gene Wiki and Wikipedia are largely motivated by altruism and other non-quantifiable reasons (Nov, 2007). Because the incentives to contribute are not well-aligned with traditional academic rewards, many qualified scientists hesitate to devote their limited time to contributing. We are pleased to announce that GENE has embraced a new partnership with the Gene Wiki project to better align those incentives. We have initiated the Gene Wiki

Reviews series of articles, which are invited reviews on genes and proteins. In parallel with the peer-reviewed article that appears in GENE, authors also agree to make significant contributions to the corresponding Wikipedia article. This design creates two versions that have distinct functions—one article of record that can be cited and treated as an authoritative snapshot of the field, and one “living article” that will continue to evolve as new biological insights are revealed.

This effort follows at least two similar initiatives at peer-reviewed journals. Four years ago, the journal *RNA Biology* began their initiative to promote Wikipedia articles through the RNA families manuscript track on RNA families (Gardner and Bateman, 2009), which has resulted in over 30 published articles to date (Gardner, 2012). More recently, *PLoS Computational Biology* created Topic Pages as part of their Education section (Wodak et al., 2012).

This issue of GENE includes the first four submissions in our Gene Wiki Reviews series. (Silveyra and Floros, 2013) present a comprehensive review of the surfactant-associated protelINS SP-A1 and SP-A2. (Harris and Hammock, 2013) describe the current state of knowledge on soluble epoxide hydrolase. (Kim et al., 2013) summarize the motor protein Kinesin-5 (*KIF11*). (Tomkinson and Sallmyr, 2013) provide an overview of the DNA ligase *LIG3*. In all cases, the related Wikipedia articles have also been significantly updated and expanded by the authors.

We believe that this new partnership between GENE and the Gene Wiki serves a valuable role for many communities—for authors, for research scientists, and for the broader community. We hope you agree, and we welcome your feedback.

References

- Gardner, P.P., 2012. Three years of RNA families. *RNA Biol.* 9 (1), 2–3.
- Gardner, P.P., Bateman, A., 2009. A home for RNA families at *RNA Biology*. *RNA Biol.* 6 (1), 2–4.
- Harris, T.R., Hammock, B.D., 2013. Soluble epoxide hydrolase: gene structure, expression and deletion. *Gene* 526 (2), 61–74.
- Huss III, J.W., Orozco, C., Goodale, J., Wu, C., Batalov, S., et al., 2008. A Gene Wiki for Community Annotation of Gene Function. *PLoS Biol* 6 (7), e175. <http://dx.doi.org/10.1371/journal.pbio.0060175>.
- Nov, O., 2007. What motivates Wikipedians? *Commun. ACM* 50 (11), 60–64.
- Silveyra, P., Floros, J., 2013. Genetic complexity of the human surfactant-associated protelINS SP-A1 and SP-A2. *Gene* 531 (2), 126–132.
- Tomkinson, A.E., Sallmyr, A., 2013. Structure and function of the DNA ligases encoded by the mammalian *LIG3* gene. *Gene* 531 (2), 150–157.
- Wodak, S.J., Mietchen, D., Collings, A.M., Russell, R.B., Bourne, P.E., 2012. Topic pages: *PLoS computational biology* meets Wikipedia. *PLoS Comput. Biol.* 8 (3), e1002446 (PMC3315447).
- Wojcik, E.J., Buckley, R.S., Richard, J., Liu, L., Huckaba, T.M., Kim, S., 2013. Kinesin-5: Cross-bridging mechanism to targeted clinical therapy. *Gene* 531 (2), 133–149.

* Corresponding author. Tel.: +1 858 784 2079.

E-mail address: asu@scripps.edu (A.I. Su).