

have used both MSP and BGS to verify our results, and recruited samples from all over the world.

In summary, we found that *p21*, unlike *p16* and *p15*,⁵ is rarely inactivated by methylation in lymphomas and carcinomas. However, our study still does not rule out the possibility of epigenetic repression of this gene, to some extent, through chromatin/histone structure changes, since histone deacetylase inhibitors trichostatin A (TSA), phenylbutyrate, and subercylanilide hydroxamic acid (SAHA) can also activate *p21* expression.¹¹ 5-aza-2'-deoxycytidine can also activate *p21* expression through methylation-independent mechanisms.

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We thank Drs Sen-Tien Tsai, Thomas Putti, Guiyuan Li, Ya Cao, Bert Vogelstein, Dolly Huang, Luke Tan, Boon Cher Goh, and Soo Chin Lee for cell lines and samples, and Chaiyen Lim and Li Fu for technical support. This project was supported by an A*STAR research grant to Johns Hopkins Singapore (Q.T. and R.A.).

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To the editor:

Enough already of the word “robust”!

Lately, I have noticed that the word “robust” has become one of the overused terms in biomedical science, and we hematologists are among the worst offenders. This abuse of “robust” is a relatively recent phenomenon; the number of biomedical articles published annually with the word “robust” in title or abstract has increased 40-fold since 1982 (Figure 1A). The occurrence of “robust” in *Blood* articles has gone from nil in the early 1990s to more than 100 references in 2003 (Figure 1B). While other terms have also experienced dramatic growth (eg, *p53*), such usage changes have occurred because of scientific discovery, not linguistic conformity and imitation.

Dictionary definitions of “robust” (derived from a Latin word for “oak”) include hale and hearty synonyms like “vigorous” and “firm.” Describing an object or idea as “robust” implies that it has the power to withstand physical or intellectual challenge. But in modern medical parlance, this once useful code word is becoming meaningless jargon. “Robust” used to designate a treatment strategy or laboratory technique that actually worked most of the time, in contrast to those that failed frequently and for no apparent reason. When a PhD described an assay as “robust,” the audience could safely assume that the technique was so straightforward,

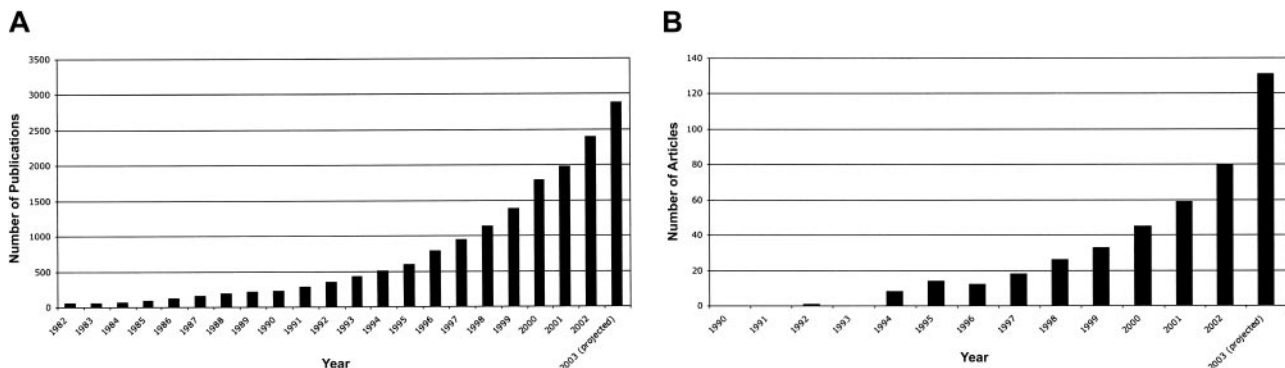


Figure 1. Growth of usage of the word “robust” in recent publications. (A) The number of biomedical publications each year containing the word “robust” in the title or abstract, indexed by the National Library of Medicine and accessed via PubMed at <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=PubMed> on October 20, 2003. Publications that included the word “robust” only in the author field (eg, publications by Drs Robusto, Robustellini, Robustelli, and Robustova) were excluded. Although PubMed searches also retrieve a small subset of paleontology and anthropology articles, reading the recent abstracts verified that the growth of articles containing the word “robust” has not come because research concerning *Australopithecus robustus* and related East African hominids is proceeding at an astonishing pace. The total annual number of PubMed-indexed publications increased less than 2-fold from 1982 to 2002. Figures for 2003 are projected based on occurrences of robust through October 1. (B) The number of articles published in *Blood* each year that have included the word “robust” in the abstract, title, or text of the article. The full text of all *Blood* articles published since January 1990 was searched at <http://www.bloodjournal.org/search.dtl> on October 20, 2003.

even a clinically trained MD could perform it successfully. (Note: The author is a clinically trained MD.) But now robust is degenerating into merely a trendy way of saying “good.”

At a recent meeting I counted 8 consecutive speakers who used the word “robust” in their presentations, as if infectious robustitis were spreading from one to the next like a meme, a “virus of the mind.”¹ The speaker who mercifully broke the “robust” string spent most of her talk struggling with the unfamiliar data projector (a robust and universal standard for these is desperately needed) and also had laryngitis, forcing minimalist language.

It is possible to make a robust point without using the word “robust.” Literary standards such as the complete works of Shakespeare (37 plays and 154 sonnets), the King James Bible, and Bulfinch’s mythology² do not use the word “robust” even once. Despite plenty of robust structures in the human body, there is only a single “robust” descriptor buried in the 1396 pages of Henry Gray’s anatomical classic.³ *Bartlett’s Quotations* does not contain one aphorism with the word “robust,” proving that witty and clever sayings can exist in a robust-less world.

In contrast to this parsimony, among the 5739 abstracts submitted for the 2002 American Society of Hematology (ASH) annual meeting, a whopping 53 contained the word “robust”; in 2001 there were 36. Interestingly, there appears to be an acceptance bias in favor of abstracts containing the word “robust”: in 2002, 83% (44 of 53) of ASH abstracts containing “robust” were chosen for presentation, whereas only 60% of all submitted abstracts escaped the stigma of “publication only.” In 2001, the same trend existed (78% “robust” accepted vs 66% overall). In contrast to words like “robust” and “molecular” (76% presentation rate in 2001 and 73% in 2002), the term “descriptive”⁴ is the kiss of death for an ASH abstract: a 42% accept rate in 2001-2002, and almost all of the accepted abstracts in this group used “descriptive” to refer to statistics, not science. The take-home message is crystal clear: all my future ASH abstracts will gratuitously use the words “robust” and “molecular” and will avoid “descriptive” like the plague.

This tiresome use of “robust” is not unique to hematology. The American Society of Clinical Oncology suffers from the same disease, although at an earlier stage: 47 “robust” meeting abstracts spread over the last 3 years. The American College of Cardiology suffered 10 “robust” abstracts this year, while “Digestive Disease Week 2003” featured 16 “robust” abstracts among the nearly 5000 presented. Surprisingly, orthopedic surgery, the specialty of choice for Olympic athletes and football linebackers seeking a career change and blessed with many physically robust individuals, remains unaffected: at their big annual meeting, only 1 orally presented abstract in the last 3 years has been “robust.”

If we are to rescue this word before it becomes as cliché as “proof of principle,” “elegant,” and “intriguing,” we must act soon. One way of highlighting and remedying the overuse of the word “robust” might be to declare a “Robust-Free Day” at the next ASH annual meeting. On this day, all speakers caught using the word “robust” would be required to buy a drink for the first 3 rows of the audience. The author welcomes other robust suggestions; you will find me at the front of the room in the plenary sessions at ASH, waiting to collect my free drinks.

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D.P.S. is a Mayo Foundation Research Scholar supported by the Mayo Foundation, Rochester, MN, USA. The author has no potential conflicts of interest to report.

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To the editor:

Safety and efficacy of subcutaneous bolus injection of deferoxamine in adult patients with iron overload: an update

Multiply transfused patients, such as those with hematologic malignancies undergoing chemotherapy or those with thalassemia major, develop iron overload which in time becomes responsible for organ damage and dysfunction. Iron chelation therapy is therefore necessary to prevent or decrease the iron burden.^{1,2} Subcutaneous continuous infusion of deferoxamine mesylate (DFO) through a battery-operated portable pump is the most effective and safest method of preventing or treating iron overload, but it is very demanding since it requires the patients’ compliance for 8 to 12 hours daily. For this reason, alternative iron chelating approaches have been developed in the last few years.³ Borgna-Pignatti and Cohen⁴ first demonstrated in 1995 in thalassemic patients that the 48-hour DFO-induced urinary iron excretion after twice-daily subcutaneous bolus injections of deferoxamine is similar to that after continuous infusion. Subsequently, other studies confirmed these findings in thalassemic and nonthalassemic iron-overloaded patients.⁵⁻⁸ More recently, we documented the long-term safety and

efficacy of this method in 26 iron-overloaded adult patients.⁹ Since then, we have received many letters from colleagues who wanted to start such a method of administration or who asked us for an update of our patients. The great interest around twice-daily subcutaneous bolus injections of DFO, still existing 3 years after the publication of our study, despite the fact that this method has not been licensed by the pharmaceutical company producing DFO (Novartis Pharma, Origgio, Italy), gives us the opportunity to review our series and make some considerations.

During the follow-up period (April 1999 to September 2003), 7 of the 15 regularly transfused patients (patient nos. 3, 5, 9, 10, 15, 19, and 22) of the first group died due to disease progression, whereas 3 of the remaining 8 patients (patient nos. 1, 12, and 14) complained of the large volume of the single bolus injection (10 mL), which caused a postinjection, painful swelling that lasted several hours (12 to 24 hours), and these patients chose to continue chelation therapy with the standard subcutaneous continuous