


Scientific Writing in English
— 英语科研论文写作 —

MODULE 1

- Getting started: Methods of Reducing the Pain -
- Writing and Editing your first draft-



Lecture 3: Monday 21.09.2015

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Overview of today's lecture

1. Course matters (Groups etc.)
2. Module 1 – Getting Started (to be completed)
3. Summary
4. Tasks from last Friday
5. Tasks in-class
6. Tasks for next Friday


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3. Module 1 – Getting Started (continued)

Getting started – Methods of reducing the pain!

TIP 5 Develop a reading habit

- * short-term: scientific articles in your field
- * long-term: fiction, novels, popular science magazines



Getting started – Methods of reducing the pain!

TIP 5 Develop a reading habit

Data Analysis:

- * almost 70% of you read 1-5 scientific articles per week
- * more than half of students are reading English books
- * only ~10% participate in regular journal clubs
- * ~5% read regularly science-related journals in English

Getting started – Methods of reducing the pain!

TIP 6 Read like an editor

- * read articles with **grammar focus**

Idea:

- * as non-native speakers, you do not have a 'native feeling' for the English language
- * to develop a better sense for grammatical structures essential for good academic writing, start reading with a focus on use of articles, conjunctions, tenses ...

EXAMPLES

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Example:

Highlight all articles (the /a/an) used in this abstract, and try to understand why a particular article form was used (definite versus indefinite). Degree of difficulty: **HIGH**

Mice carrying mutations in multiple genes are traditionally generated by sequential recombination in embryonic stem cells and/or time-consuming intercrossing of mice with a single mutation. The CRISPR/Cas system has been adapted as an efficient gene-targeting technology with the potential for multiplexed genome editing. We demonstrate that CRISPR/Cas-mediated gene editing allows the simultaneous disruption of five genes (Tet1, 2, 3, Sry, Uty--8 alleles) in mouse embryonic stem (ES) cells with high efficiency. Coinjection of Cas9 mRNA and single-guide RNAs (sgRNAs) targeting Tet1 and Tet2 into zygotes generated mice with biallelic mutations in both genes with an efficiency of 80%. Finally, we show that coinjection of Cas9 mRNA/sgRNAs with mutant oligos generated precise point mutations simultaneously in two target genes. Thus, the CRISPR/Cas system allows the one-step generation of animals carrying mutations in multiple genes, an approach that will greatly accelerate the in vivo study of functionally redundant genes and of epistatic gene interactions.

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Example:

Highlight all **Verbs** used in this abstract, and add them to your verb dictionary. Then analyze the grammatical **Tense** used for each verb, and then discuss with your peers why a particular tense was used. In addition, check the **subject** or **object** each verbs is referring to. Degree of difficulty: **Medium**

Mice carrying mutations in multiple genes are traditionally generated by sequential recombination in embryonic stem cells and/or time-consuming intercrossing of mice with a single mutation. The CRISPR/Cas system has been adapted as an efficient gene-targeting technology with the potential for multiplexed genome editing. We demonstrate that CRISPR/Cas-mediated gene editing allows the simultaneous disruption of five genes (Tet1, 2, 3, Sry, Uty--8 alleles) in mouse embryonic stem (ES) cells with high efficiency. Coinjection of Cas9 mRNA and single-guide RNAs (sgRNAs) targeting Tet1 and Tet2 into zygotes generated mice with biallelic mutations in both genes with an efficiency of 80%. Finally, we show that coinjection of Cas9 mRNA/sgRNAs with mutant oligos generated precise point mutations simultaneously in two target genes. Thus, the CRISPR/Cas system allows the one-step generation of animals carrying mutations in multiple genes, an approach that will greatly accelerate the in vivo study of functionally redundant genes and of epistatic gene interactions.

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Example:

Highlight all **strings of nouns** in the text below, and calculate the average length of these strings. Degree of difficulty: **Medium**

noun strings:

Mice carrying mutations in multiple genes are traditionally generated by sequential recombination in embryonic stem cells and/or time-consuming intercrossing of mice with a single mutation. The CRISPR/Cas system has been adapted as an efficient gene-targeting technology with the potential for multiplexed genome editing. We demonstrate that CRISPR/Cas-mediated gene editing allows the simultaneous disruption of five genes (Tet1, 2, 3, Sry, Uty--8 alleles) in mouse embryonic stem (ES) cells with high efficiency. Coinjection of Cas9 mRNA and single-guide RNAs (sgRNAs) targeting Tet1 and Tet2 into zygotes generated mice with biallelic mutations in both genes with an efficiency of 80%. Finally, we show that coinjection of Cas9 mRNA/sgRNAs with mutant oligos generated precise point mutations simultaneously in two target genes. Thus, the CRISPR/Cas system allows the one-step generation of animals carrying mutations in multiple genes, an approach that will greatly accelerate the in vivo study of functionally redundant genes and of epistatic gene interactions.

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Example:

Highlight words/concepts in subsequent sentences (1+2, 2+3, 3+4 etc.) that connect those two sentences with each other.

Degree of difficulty: **Medium**

Mice carrying mutations in multiple genes are traditionally generated by sequential recombination in embryonic stem cells and/or time-consuming intercrossing of mice with a single mutation. The CRISPR/Cas system has been adapted as an efficient gene-targeting technology with the potential for multiplexed genome editing. We demonstrate that CRISPR/Cas-mediated gene editing allows the simultaneous disruption of five genes (Tet1, 2, 3, Sry, Uty--8 alleles) in mouse embryonic stem (ES) cells with high efficiency. Coinjection of Cas9 mRNA and single-guide RNAs (sgRNAs) targeting Tet1 and Tet2 into zygotes generated mice with biallelic mutations in both genes with an efficiency of 80%. Finally, we show that coinjection of Cas9 mRNA/sgRNAs with mutant oligos generated precise point mutations simultaneously in two target genes. Thus, the CRISPR/Cas system allows the one-step generation of animals carrying mutations in multiple genes, an approach that will greatly accelerate the in vivo study of functionally redundant genes and of epistatic gene interactions.

Getting started – Methods of reducing the pain!

TIP 6 Read like an editor

* read articles with **grammar focus**

To be introduced in great detail in **MODULE 2**

CHAPTER 1: Getting started – Methods of reducing the pain!

TIP 7 Keep an everyday book

- * collect new words, sentence structures and phrases
- * do so in a section-specific way
- * use of dictionaries
- * make sure you add reference for longer phrases (plagiarism issue)
- * offline notebook -> to be uploaded every fortnight

Getting started – Methods of reducing the pain

TIP 8 Writing is different to Editing

Standard procedure used by most young writers:

- * writing down a few sentences
- * thinking about them
- * finding errors in spelling or grammar
- * correcting of mistakes
- * writing a few more lines
- * repeating this cycle until exhausted (about 30 min later!)

Getting started – Methods of reducing the pain

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PROBLEM: Train of thought constantly interrupted!

Getting started – Methods of reducing the pain



-> Writing and Editing require different brain functions!

Getting started – Methods of reducing the pain

TIP 8 Writing is different to editing

- * your very first draft does **NOT** have to be perfect!
- * maintaining train of thought most important
- * focus on - connection between your individual results
- connection between results and literature

Getting started – Methods of reducing the pain

TIP 8 Writing is different to editing

- * when writing: do nothing but writing
 - * forget about logical order, grammar, spelling
 - * switch of your mobile, get offline, de-activate the wifi!
 - * your brain cannot focus on writing if you do anything else at the same time
- > writing very energy-consuming process, do not waste it on any other activities !

Getting started – Methods of reducing the pain

TIP 8 Writing is different to **Editing**

- * Editing requires knowledge of grammar and syntax*
 - * Editing requires adequate vocabulary
 - * Editing requires sense of logical order
- > all happening in the left hemisphere of your brain
- > none of these have anything to do with your experimental results, yes?!

*syntax... arrangement of words and phrases

CHAPTER 1: Getting started – Summary

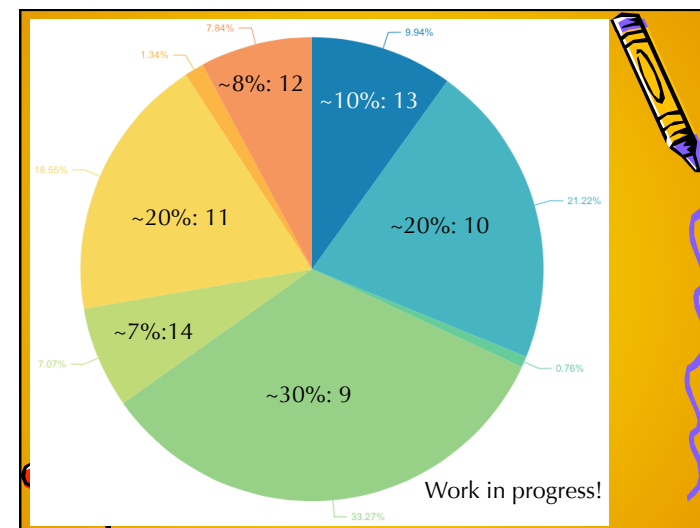
- * Start with an internet fact finding mission
- * Practise, practise, practise!
- * Avoid multitasking while Writing!
- * Keep a record of new vocabulary and phrases

Task 1: Starting Point of your Writing



YOUR ANSWERS

They will never won a beauty context, but naked moles rats may hold the lesson or two for humans. 2 studies in 2013 found clues to why these rodents can live 30 years, cancer-free. One secret may be the ribosomes that excels at producing error-free proteins; misformed proteins can clog up the body's systems and accelerated aging. Another could be a supersized version of a complex sugar which seems to protect against cancer. Naked mole rats do not brake this compound down as fast as other animals, though it builds up in the spaces between cells and may keep a cells from clumping together and formatting tumors.



TASK 3: Article Details

-> To be discussed after completion of Part 2

Please Note: ALL TASKS will have deadlines
-> provided to you together with the code

TASK 3: Article Details

Q5 : Count the number of words/items as indicated:

Number of Authors	Words in Title	Words in Abstract	Words in Introduction	Words in Results Section	Words in Discussion Section	Number of References
7	9	190	703	95	311	50
7	10	281	961	701	2195	62
1	6	18	269	360	0	2
2	12	164	456	959	959	13
7	19	134	214	78	412	36
5	15	127	458	2038	1024	52
4	15	341	1109	1437	697	57
22	8	223	342	203	4	11
4	18	175	543	479	1327	20
11	5	138	379	2791	261	42

受访人数: 368 1 / 37 下一页

- + information about the journal
- + information about the general field
- + title of the article

-> our first data bank of home-made "Instructions to Authors"