

ISB Spring meeting 2013

24th of May

Editing for non-native speakers

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Proof-reading and editing:

Scientific articles

Master's, Bachelor's and PhD thesis

Technical documents

Translations

Teaching scientific communication
and technical writing

Cell and molecular biology

Biochemistry, chemistry

Structural biology

Immunology

Neurology

Clinical studies

Ecology

Environmental science

Engineering

Concrete research

Articles in articles: Editing for non-native speakers

Missing articles

Large scale systems biological study requires careful planning.

A large scale systems biological study requires careful planning.

The construction site is located in OAO Surgutneftegaz Talakan oil field in Yakutia.

The construction site is located in **the** OAO Surgutneftegaz Talakan oil field in Yakutia.

**A single, countable noun requires an article (a or the)
or a possessive pronoun (my, your, his, her, our, their, its)**

Missing articles

Strong and weak H-bonds are found in **(the)** protein-ligand interfaces.

A significant advantage of the method is **its** flexibility.

Flexibility is seen as an advantage when choosing a method.

**Plural and uncountable nouns may take “the”
- depending on the situation**

The article may specify the noun:

In the brain (the organ)

In brain (tissue)

In the blood (the organ)

In blood (sample)

Articles are often left out from beginnings of titles and headings...

Functional analysis of the *Drosophila* immune response

...and from figure legends

Figure 6. Heat map of genes that are differentially expressed between control and PCSK7 morphant fish. Samples were prepared and data analyzed as described in the methods section. Zebrafish genes that have an identifiable human homolog are shown in the heat map.

Prepositions

Avidin was first found **from** chicken.

in

Studies **on** yeast identified the high mobility group (HMG) protein Abf2p, whose mammalian homologue is TFAM.

in (organism)

In almost every study **in** protein-ligand binding, it is of interest to understand the overall binding mechanism.

on (phenomenon)

The amount of free ³H-biotin was quantified **by** a liquid scintillation counter.

with

Quantify by scintillation counting (method). Quantify with a scintillation counter (instrument).

PCSK7 regulates genes important for organogenesis and immunology and is capable **to** contribute to the processing of the anti-inflammatory cytokine TGFb1a.

able to contribute/capable of contributing

A wound matures **to** a flat, collagenous and relatively acellular scar.

into (turns, develops)

The expression of structural genes coding **_**proteins like *β-Tubulin 60D* and *Tep-like CG18589...*

for

The mitochondrial DNA polymerase, POLG, is encoded **by** a nuclear gene on chromosome 10.

**Prestigious execution of Consolis Polska in the newly
opened Polish Jews History Museum in Warsaw**

Simple vs. continuous present

The reading frames of A8 and A6 as well as ND4 and ND4L **are overlapping** partially.

The reading frames of A8 and A6 as well as ND4 and ND4L **overlap** partially.

Currently, we **clone** the gene for the receptor

Currently, we **are cloning** the gene for the receptor

Simple present: permanent
Continuous present: temporary

Matching parallel structures

Avidin **was deactivated** at pH 1, whereas streptavidin **remains** active under acidic conditions.

Avidin **was deactivated** at pH 1, whereas streptavidin **remained** active under acidic conditions.

Therefore, we **concluded** that deleting the PCSK7 function in fish **can** give important insights into the specific biological function of this poorly defined proprotein convertase.

Therefore, we **concluded** that deleting the PCSK7 function in fish **could** give important insights into the specific biological function of this poorly defined proprotein convertase.

Flies are cheap to maintain, easy to manipulate genetically and **ethical issues aren't a problem.**

Flies are cheap to maintain, easy to manipulate genetically and **ethically unproblematic.**

Words: mix-up

Twinkle fused with enhanced green fluorescent protein (EGFP) was found to localize to mtDNA nucleoids, which **represented** evidence for the nucleoid organization of mtDNA in human cells.

Twinkle fused with enhanced green fluorescent protein (EGFP) was found to localize to mtDNA nucleoids, which **presented** evidence for the nucleoid organization of mtDNA in human cells.

Words: too informal

Therefore, **we felt** that deleting the PCSK7 function in fish could give important insights into the specific biological function of this poorly defined proprotein convertase.

Therefore, **hypothesized** that deleting the PCSK7 function in fish could give important insights into the specific biological function of this poorly defined proprotein convertase.

There are **plenty of** reasons for unconsciousness.

There are **several** reasons for unconsciousness.

Words

Healing may be **magnified** and lead to the formation of **massive** scarring

Healing may be **exaggerated** and lead to the formation of **extensive** scarring.

Words: common misuse

Capsid formation has been **supposed** to be linked to the encapsulation of the RNA genome.

thought

Furthermore, the region undergoing the extensive conformational changes has been **detected** to be a target for an antibody.

found

It frees water molecules from the contact site to form the **ordinary** structure of water.

common

This offers the **opportunity** to attach desired parts to biotin without affecting its affinity to avidin.

possibility

The characterization of new avidin-like proteins has **improved** our basic knowledge of the avidin-biotin interaction.

increased

Words: too formal → misuse

Both avidin and chimeric avidin showed affinity towards biotin beyond the detection limit of the ITC instrument ($K_d < 10^{-9}$ M), which **is according to** earlier observations.

Both avidin and chimeric avidin showed affinity towards biotin beyond the detection limit of the ITC instrument ($K_d < 10^{-9}$ M), which **is (in accordance) agrees with** earlier observations.

It is **prerequisite** that lymphocytes patrol the body against foreign intruders

It is **essential** that lymphocytes patrol the body against foreign intruders

Style affects comprehension

The language is too complicated

Native language of the author

(Finnish: compound words and long sentences)

These mannose containing saccharides are generated during glycosylation or released from misfolded glycoproteins, which are detected by **endoplasmic reticulum quality control**. **quality control (mechanisms) in the endoplasmic reticulum**

Trying to sound “academic”

...because mitochondrial translation is particularly important during periods of maximal growth, ATAD3 (or prohibitin) deficiency is expected to be felt most keenly in proliferating cells.

Style affects comprehension

The explanation is insufficient

Native language of the author

The author knows the subject too well

Improve style

Be clear

- Emphasise the main point

- Use the active voice

Simplify

- Use shorter sentences

- Use "smaller" words

Put the main action in the verb

Analysis of the samples was carried out

→ *samples were analysed*

These screens have identified many novel positive and negative regulators of *Drosophila* NF-κB signaling, which has **made** our understanding of these signaling cascades more **complete**.

These screens have identified many novel positive and negative regulators of *Drosophila* NF-κB signaling, which has **increased** our understanding of these signaling cascades.

However, continuous mtDNA synthesis in post-mitotic cells **places a requirement** for the cell to generate precursors for DNA synthesis also outside of S-phase.

However, continuous mtDNA synthesis in post-mitotic cells means that the cells **needs** to generate precursors for DNA synthesis also outside of S-phase.

It is, there are

In this study **it is shown** that CLEVER-1 mediates tumor cell migration via lymphatic vessels.

This study **shows** that CLEVER-1 mediates tumor cell migration via lymphatic vessels.

The study reveals that **there are differences between the resistances** of different avidins to withstand different chemicals.

The study reveals that avidin variants **withstand** different chemicals to a varying degree.

It was over 60 years ago **when** Xenon was first used in anesthesia in humans.

Xenon **was first** used in anesthesia in humans over 60 years ago.

Use the active voice

When circular permutation and point mutagenesis **were combined** in the cpAvd4→3(N118M) construct, **the assumption was that it could bind** HABA tighter than BTN

We assumed that by combining circular permutation and point mutagenesis, the resulting cpAvd4→3(N118M) **construct would be able** to bind HABA tighter than BTN.

In the RNAi machinery, dsRNA **is detected** as foreign and it activates a complex RNAi pathway.

The RNAi machinery **detects** the dsRNA as foreign and **activates** a complex RNAi pathway./This activates a complex RNAi pathway.

The dsRNA **is detected** by the RNAi machinery, which **activates** a complex RNAi pathway.

Detection of the dsRNA by the RNA machinery **activates** a complex RNAi pathway

Simplify: Shorter sentences

In 1992 Yednock et al. showed that an antibody against $\alpha 4$ integrin blocked the binding of monocytes and lymphocytes to inflamed vessels in brain tissue in an *in vitro* binding assay, and prevented the onset or decreased the severity of the disease in an *in vivo* inflammation model mimicking human multiple sclerosis, hypothesizing that a therapy based on blocking the function of $\alpha 4$ integrin could be effective in treating inflammatory diseases of the central nervous system

In 1992 Yednock et al. showed that an antibody against $\alpha 4$ integrin blocked the binding of monocytes and lymphocytes to inflamed vessels in brain tissue in an *in vitro* binding assay. **It/The antibody** also prevented the onset or decreased the severity of symptoms in an *in vivo* inflammation model mimicking human multiple sclerosis. **The** authors hypothesized that a therapy based on blocking the function of $\alpha 4$ integrin could be effective in treating inflammatory diseases of the central nervous system

Style: Be clear about the subject

The most common skin related or cutaneous appendages include hair follicles, sebaceous glands, sweat glands and arrector pilli, smooth muscles that move the hair, **which** serve to support the skin and protect the body against cold, heat and dehydration.

The most common skin related or cutaneous appendages include hair follicles, sebaceous glands, sweat glands and arrector pilli, smooth muscles that move the hair. **These structures** serve to support the skin and protect the body against cold, heat and dehydration.

Simplify

In sphingomyelin, one of the phosphate oxygens is involved in hydrogen bonding with the 3OH-group of the of the long-chain base, resulting in a tilt of the head group, so it lies parallel to the bilayer surface.

One of the phosphate oxygens in sphingomyelin bonds with the 3OH-group of the long-chain base. This (bonding) results in a tilt of the head group, so that it lies parallel to the bilayer surface.

Pay attention to repeating words

Drosophila melanogaster has been widely used as a model organism for over a century now, and also as an immunological research model for over 20 years. With the emergence of RNA interference (RNAi) in *Drosophila* as a robust tool to silence genes of interest, large-scale or genome-wide functional analysis has been utilized widely in analyzing the *Drosophila* immune response in cell culture. *Drosophila* immunity is composed of cellular and humoral immunity mechanisms, and especially the systemic, humoral response pathways have been widely dissected using the functional genomic approach. Although most components of the main immune pathways had already been found using traditional genetic screening approaches, important findings including pathway components, positive and negative regulators and modifiers have been made with the RNAi approach. Additionally, RNAi screening has produced new information on host-pathogen interactions related to the pathogenesis of many microbial species

Drosophila melanogaster has been **widely** used as a model organism for over a century now, and also as an immunological research model for over 20 years. With the emergence of RNA interference (RNAi) in *Drosophila* as a robust tool to silence genes of interest, large-scale or genome-wide functional analysis has become a **popular way** of studying the *Drosophila* immune response in cell culture. *Drosophila* immunity is composed of cellular and humoral immunity mechanisms, and especially the systemic, humoral response pathways have been **extensively** dissected using the functional genomic **approach**. Although most components of the main immune pathways had already been found using traditional genetic screening **techniques**, important findings including pathway components, positive and negative regulators and modifiers have been made with RNAi **screening**. Additionally, RNAi screening has produced new information on host-pathogen interactions related to the pathogenesis of many microbial species.

Pay attention to repeating meanings

Hence, it is **possible** that hydrophobic matching **may** facilitate formation of lateral lipid-protein clusters in membranes.

Pay attention to repeating you favourite phrase

“In last decade, Drosophila RNAi has become popular method...”

Example:

The regulation of MMP gene expression has been recently comprehensively reviewed by Yan and Boyd. In brief, at transcriptional level, initially the expression of MMPs is regulated by extracellular signals that are generated 1) via ligand binding to a growth factor or cytokine receptor or 2) to integrin receptors, or 3) by alterations in cadherin-mediated cell-cell junctions. This triggers cellular signals *e.g.* activation of mitogen-activated protein kinase (MAPK) pathway, Smad-pathway or NF- κ B-pathway by growth factor or cytokine, or formation of focal adhesion complex including variety of signal transducers by integrin activation, or activation of β -catenin by cadherins, ultimately leading to activation/inactivation of an appropriate gene promoter region and shift of MMP expression.

Example: Edited

The regulation of MMP gene expression has recently been comprehensively reviewed by Yan and Boyd. In brief, at the transcriptional level, the expression of MMPs is initially regulated by extracellular signals that are generated 1) via ligand binding to a growth factor or a cytokine receptor or 2) to integrin receptors, or 3) by alterations in cadherin-mediated cell-cell junctions. These events trigger cellular signals *e.g.* the activation of the mitogen-activated protein kinase (MAPK) pathway, the Smad-pathway or the NF- κ B-pathway by a growth factor or a cytokine. Or they lead to the formation of a focal adhesion complex resulting in a variety of signals transduced by integrin activation, or the activation of β -catenin by cadherins. Ultimately, these signal lead to the activation/inactivation of an appropriate gene promoter region and a change in MMP expression.

Proof-reading

Reading your text word by word (technical errors)

Reading your text word for word (problems in clarity)

Often someone else is needed to spot mistakes and problems

What I do

Proof-read

Correct obvious mistakes and offer editorial suggestions

Understand the science

Preserve your “voice”

Am affordable

Am flexible

Am thorough

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