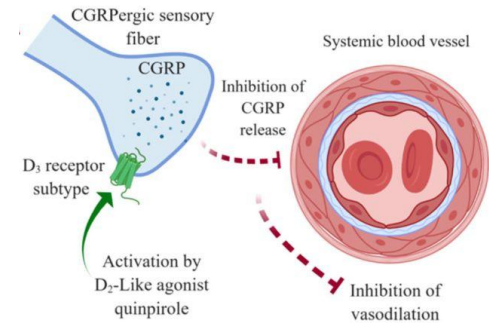


How to create an eye-catching graphical abstract to promote your research

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[BioRender](#) Ambassador
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www.gmanrique.com



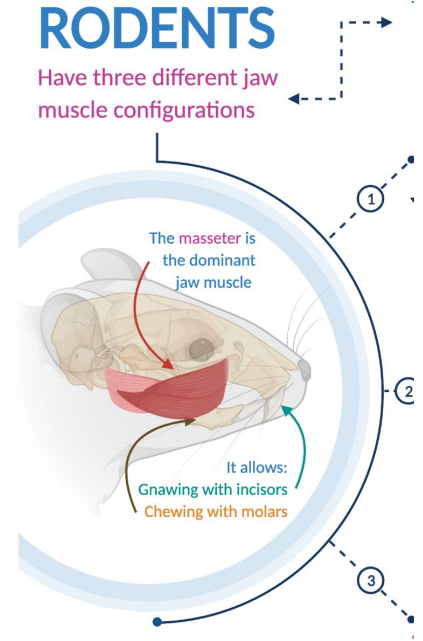
Neuro-vascular junction

ACS Chem. Neurosci. 2019, 10, 8, 3751-3757

How to create an eye-catching graphical abstract

We will discuss:

- A brief introduction to visual communication
- What is a graphical abstract
- How to summarize your research
- Color theory for scientists
- Best practices for creating visual content
- Free design resources
- Design software available through the University of Pittsburgh



Graphical abstract for Cox et al., 2012.
Functional evolution of the feeding system in rodents.
PLoS ONE. doi: 10.1371/journal.pone.0036299

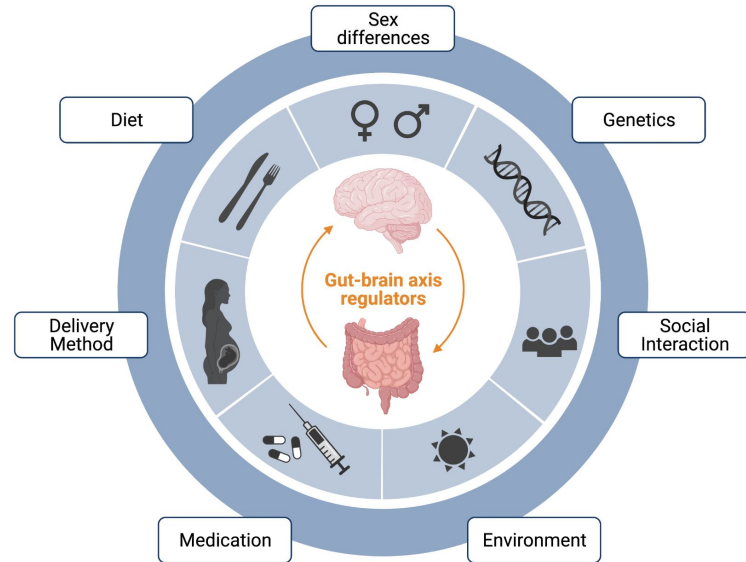
Visual communication

An estimated of 50-80% of the human brain is dedicated to visual processing, including vision, visual memory, shape discrimination, spatial awareness and image recollection (Ware, 2004).

Information consumption is not a passive process, content is assimilated by relating it to memories and experiences.

Convey information in a simple way:

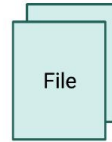
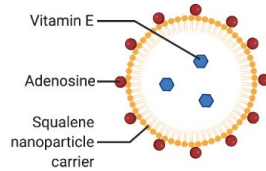
- Words
- Visuals



Visual design

The majority of a designer's and medical writer's work lies in understanding the need of the audience, and the aim is to make life easier for the information consumer (Costa et al., 2020).

SQ-Ad VitE nanoparticle



Visual elements

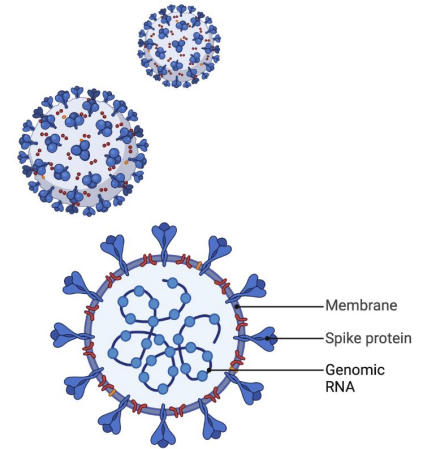
Summary of the information visually represented

Communicating science through visuals

Scientists

- Need ways of attracting attention to their research and to promote it
- Must help their readers understand the information shared

“There is a growing need for medical writers to expand their skills to include designing graphical abstracts, scientific figures, and infographics” (Costa et al., 2020).



SARS-CoV-2
How is the virus spread?

What is a graphical abstract?

Graphical abstracts are a visual summary of the main findings of a study, designed to help readers understand the key takeaways (Elsevier).

Infographic that summarizes a paper in a single image

- Excellent tool for disseminating research
- Effectively convey the benefits and real impact of science (important for obtaining research funding)
- Attract more readers and generate more citations

Creating a visual summary of your research



Poster

Article

Presentation

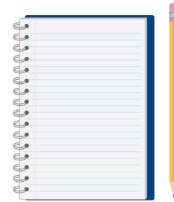
Blog



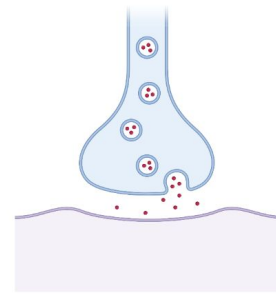
Identify the highlights of your research



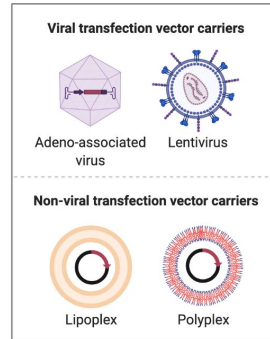
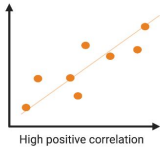
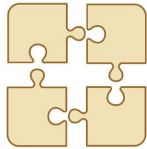
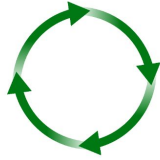
Sketch your idea



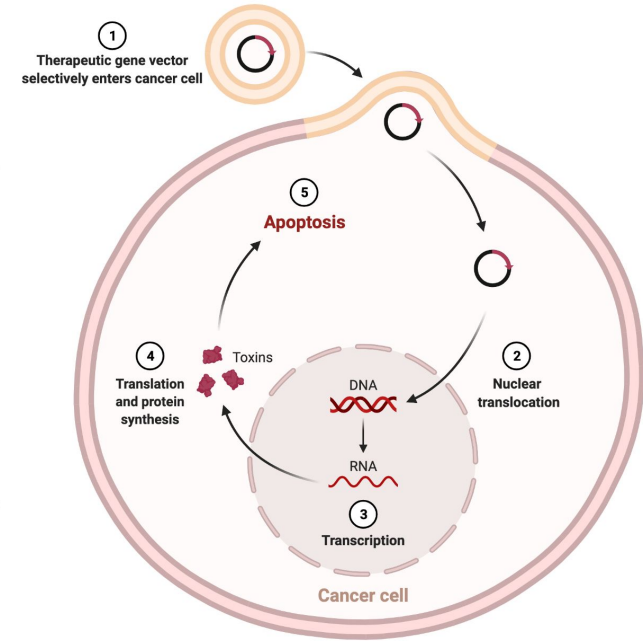
Refine your design



Visual basic components



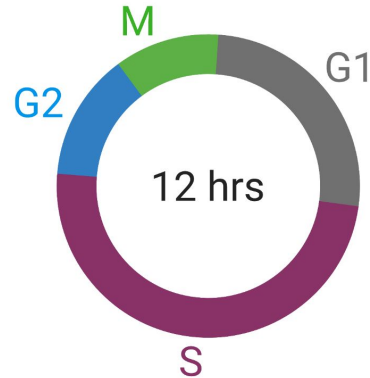
Cancer Cell-Targeted Gene Therapy

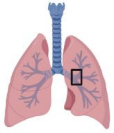


Best practices for creating a graphical abstract

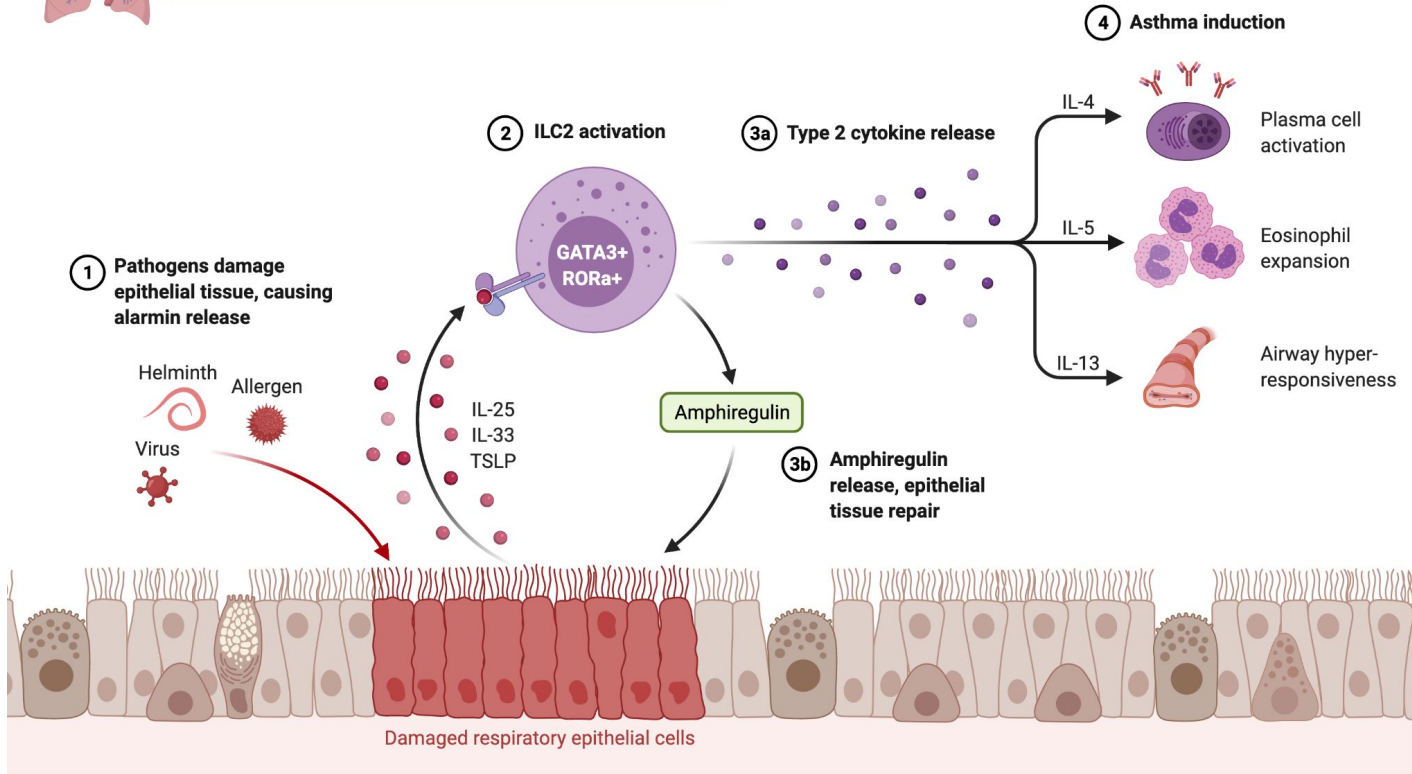
The process of simplification a visual composition is essential for easing interpretation of information and keeping the focus on the main message.

- A picture is better than a word
- Single words are better than sentences
- Use arrows when possible, but avoid to set them in many directions (Move from left to right, and from top to bottom; Wright, 2020)
- Consider the size and font of your text
- Use color with intent





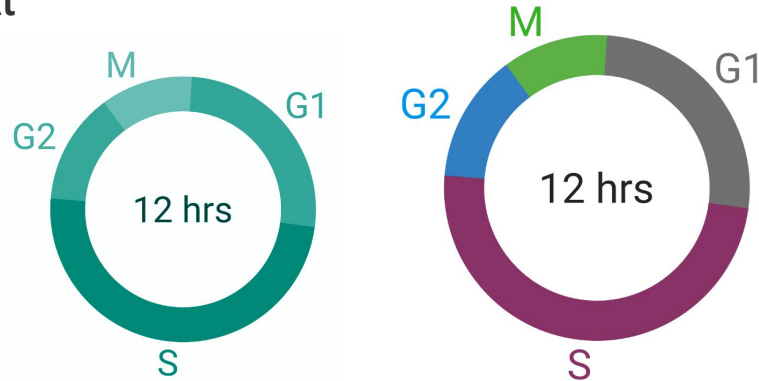
The Role of ILC2s in Asthma Pathogenesis



Best practices for creating a graphical abstract

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Is color theory important?

Duncan Wright
Editorial manager
FEBS open Bio

Use color and tone with intent

- Use color to convey meaning
- Pick color carefully
- Tone is important too

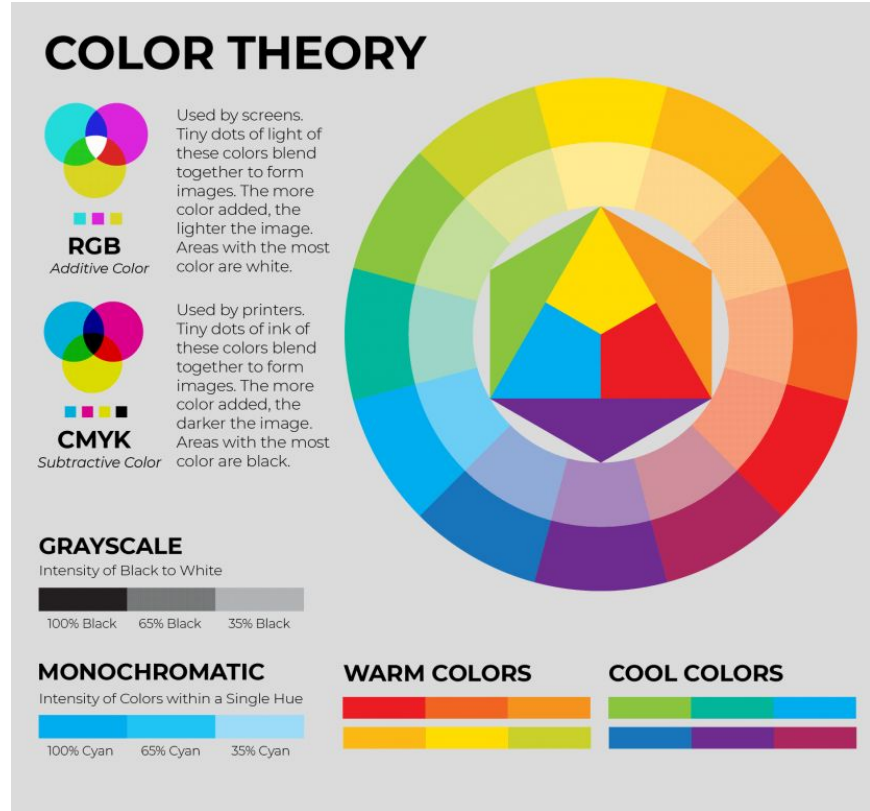
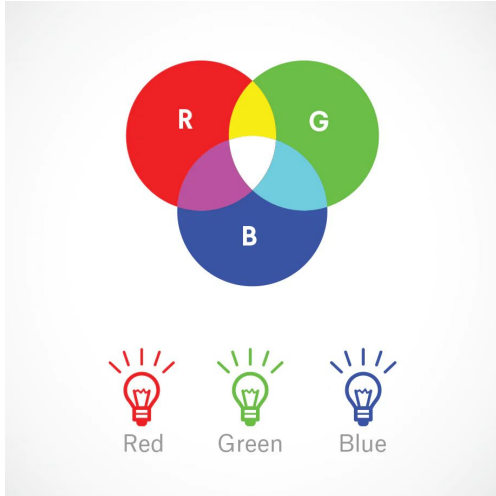


Image from nofilmschool.com



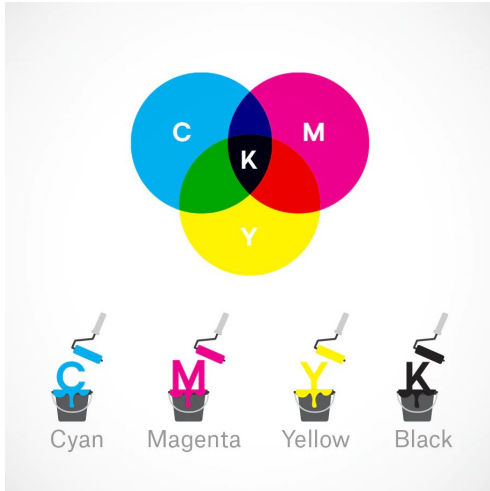
RGB is the color space for digital images. Use the RGB color mode if your design is supposed to be displayed on any kind of screen.

An infographic titled "Image file formats" with a dark grey background. At the top left, there are three small circles labeled 'R', 'G', and 'B' in red, green, and blue respectively. To their right, text reads: "RGB is a light-based color model that stands for red, green and blue." In the top right corner, the logo "99d" is visible. The main content is organized into four colored boxes, each representing a file format:

- JPG** (red box): "Web & print photos and quick previews"
- PNG** (teal box): "Transparency with millions of colors"
- GIF** (orange box): "Animation & transparency in limited colors"
- PSD** (brown box): "Layered Adobe Photoshop design files"

At the bottom of the infographic, the text "Image file formats" is written in white.

(Ellis, 2019)



CMYK (Cyan, Magenta, Yellow, Key/Black) is the color space for printed materials.

A screenshot of a design tool interface. At the top, there are four colored circles labeled C (Cyan), M (Magenta), Y (Yellow), and K (Black). To their right, text reads: "CMYK is a 4-color printing process that stands for cyan, magenta, yellow and key (black)." In the top right corner, the logo "99d" is visible. The main area displays three file format icons: "AI" (Original Adobe Illustrator design files), "PDF" (Print files and web-based documents), and "EPS" (Individual vector design elements). At the bottom, the text "Image file formats" is displayed.

(Ellis, 2019)

What about tone?

How light or dark a colour is

Convert your graphical abstract to greyscale using image editing software

[\(Wright, 2020\)](#)

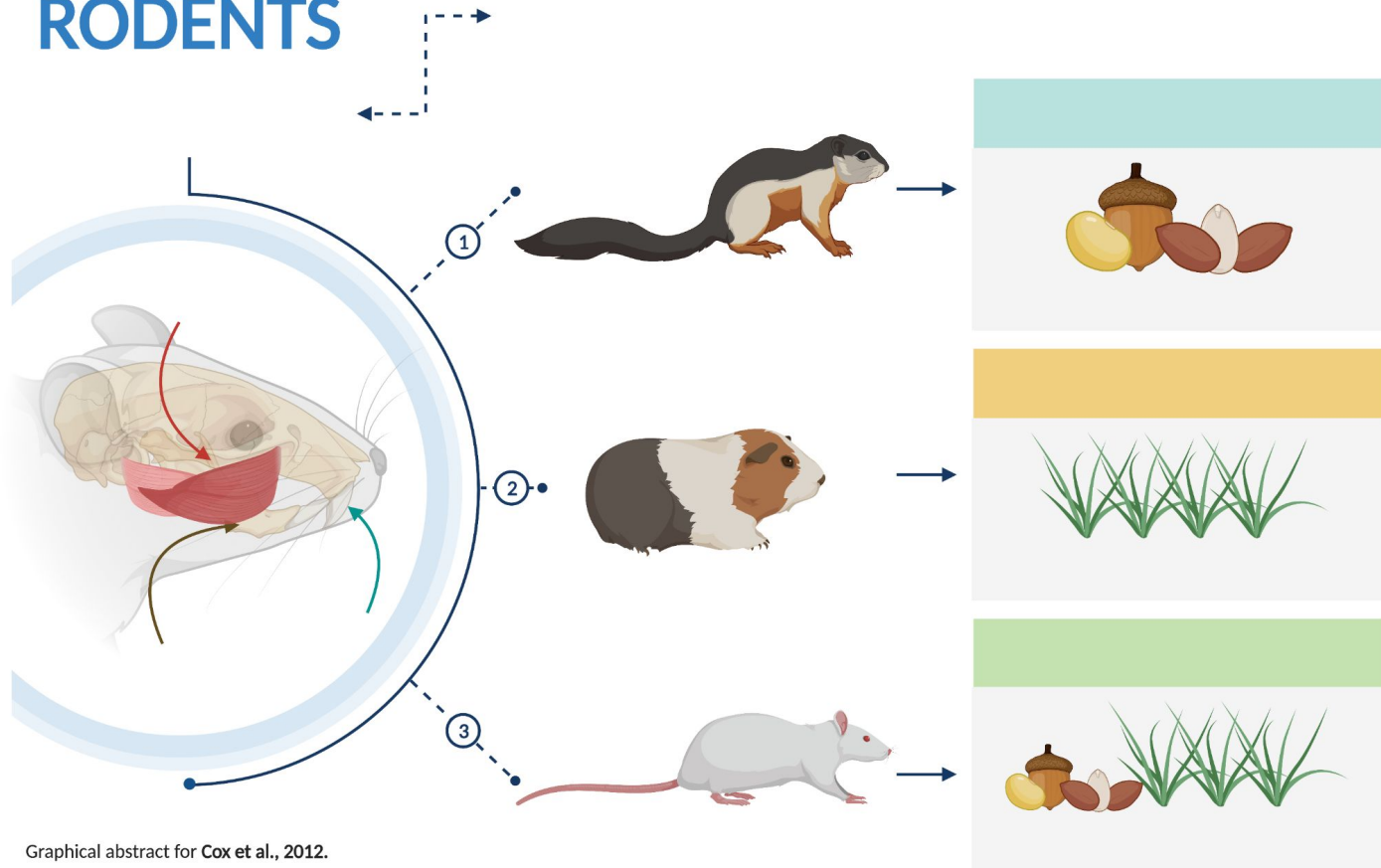
Resources

1. [Biorender grayscale feature](#)
2. [Colorblind simulator](#)

Still no clue about color?

1. Try BioBender templates and modify them
2. Check [Design wizard](#) color combinations

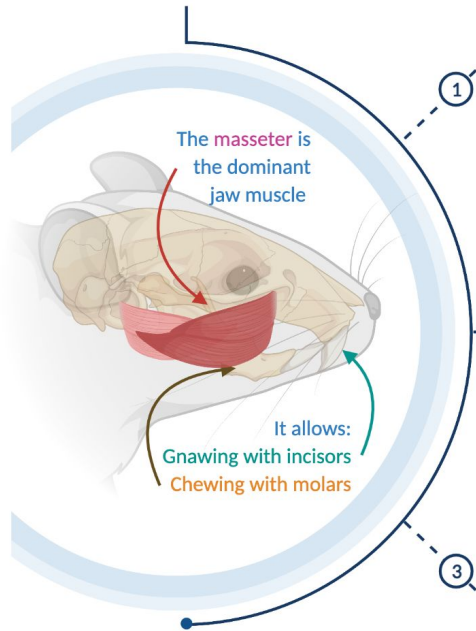
RODENTS



Graphical abstract for Cox et al., 2012.
Functional evolution of the feeding system in rodents.
PLoS ONE. doi: 10.1371/journal.pone.0036299

RODENTS

Have three different jaw muscle configurations



They are determined by how the masseter expands anteriorly

Sciurormorph condition



Squirrel

Are these different configurations better for gnawing or chewing?

MORE EFFICIENT FOR INCISOR GNAWING



Ideal for a diet of nuts and seeds

Hystricomorph condition



Guinea pig

MORE EFFICIENT FOR MOLAR CHEWING



Ideal for a diet of grass

Myomorph condition



Rat

EFFICIENT FOR INCISOR GNAWING AND MOLAR CHEWING



Ideal for a generalist diet

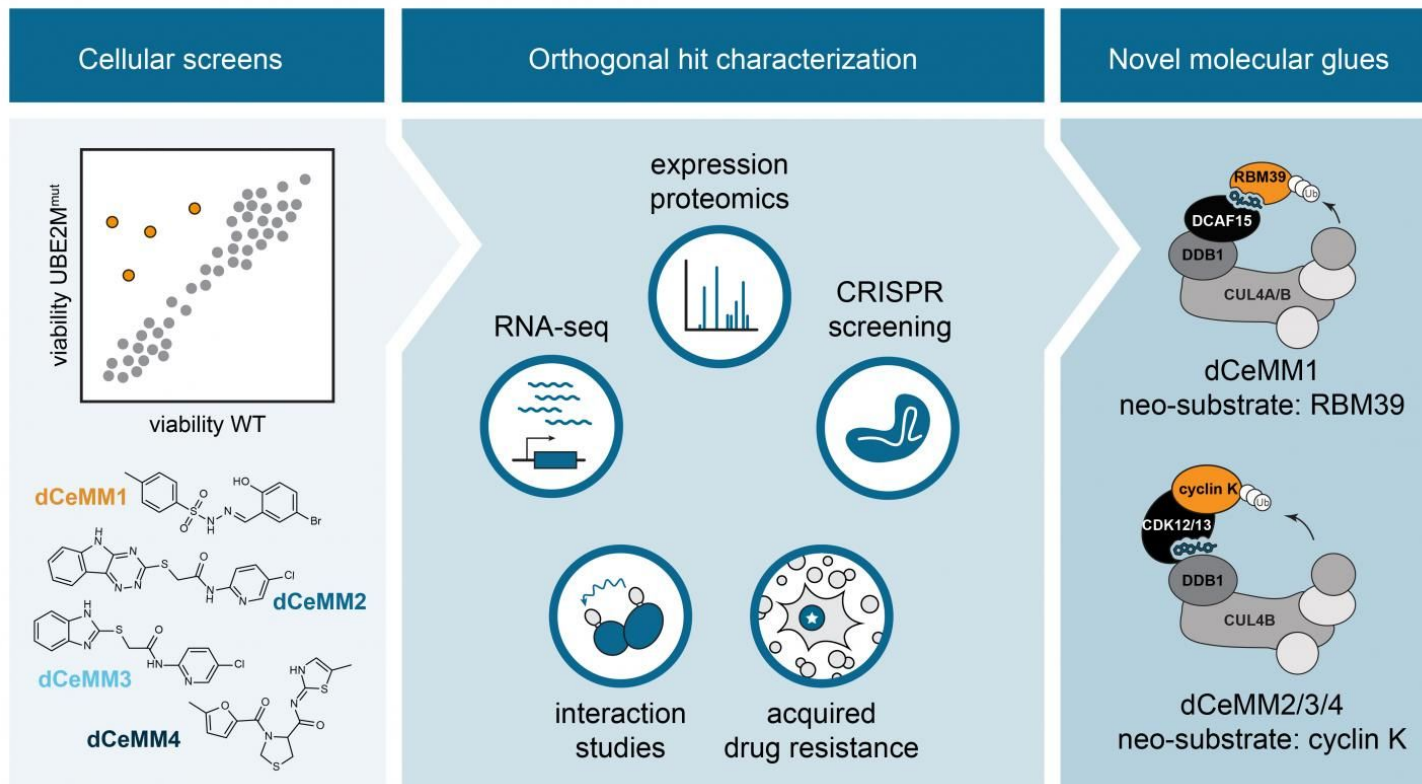


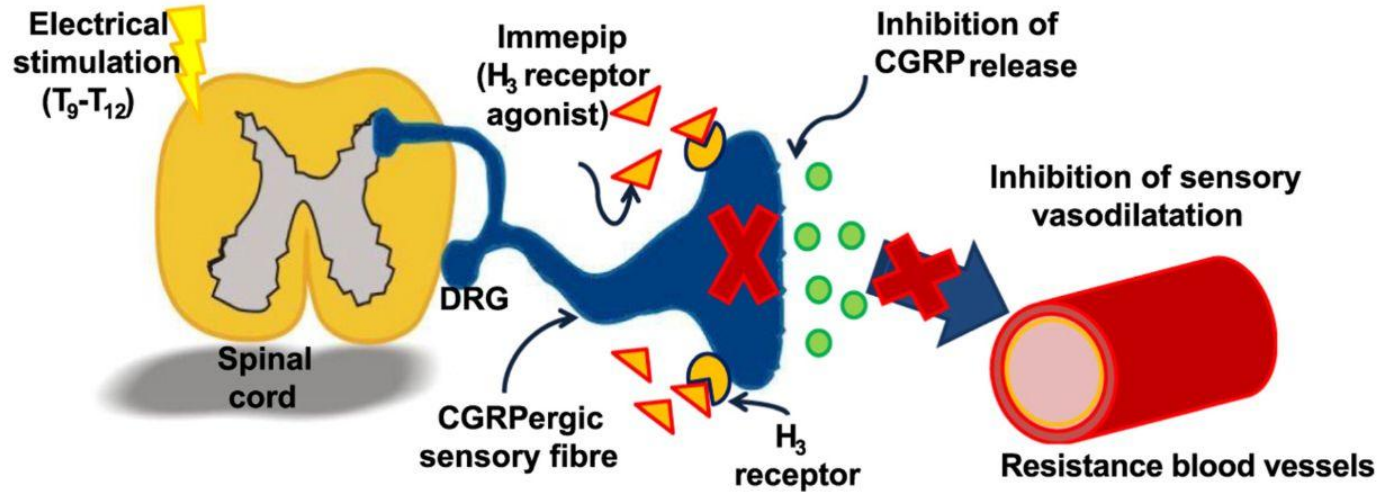
Image: Cellular viability screens nominated potential molecular glues. Orthogonal investigation of the leading molecules (dCeMM1/2/3/4) enabled the characterization of novel molecular glue degraders that recruit two different E3 ligases to induce the degradation of the proteins RBM39 and cyclin K.

CREDIT: © Cristina Mayor-Ruiz / CeMM
 Mayor-Ruiz et al., 2020. Rational discovery of molecular glue degraders via scalable chemical profiling.

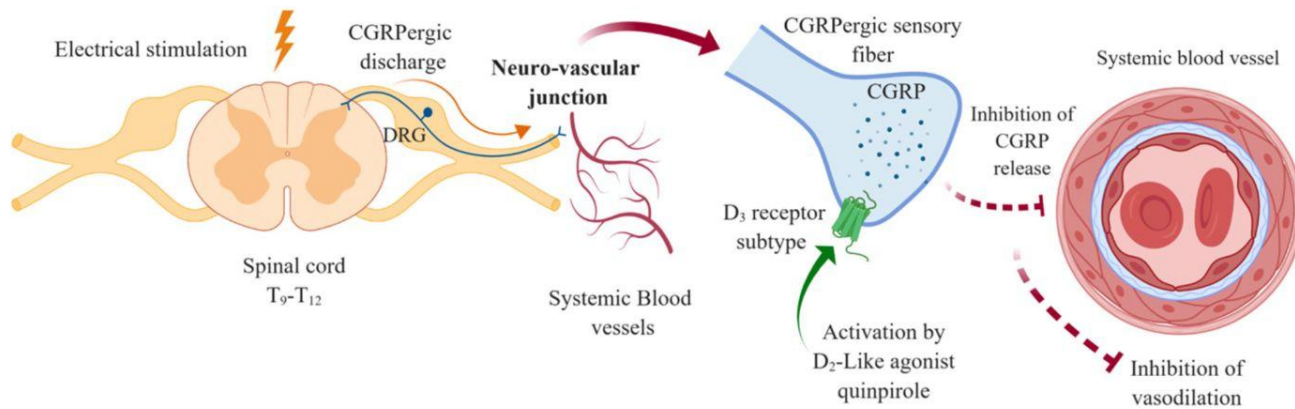
Design resources

1. **BioRender**: Free for posters, presentations and social media. Free for Pitt students, discounted membership for faculty and staff (Simona Principe, BioRender account)
2. **Procreate**: easy to learn, requires ipad, 10 dls
3. Pitt students, faculty and staff has access to Adobe Creative Cloud

BEFORE BIORENDER



CREATED WITH BIOENDER



Electrical stimulation of the CGRPergic discharge

Neuro-vascular junction

ACS Chem. Neurosci. 2019, 10, 8, 3751-3757

Costa, et al., 2020
8 principles for graphical
abstracts
Medical writing

How and why it works: The principles and history behind visual communication

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- 2 Scicomvisuals, Amsterdam, The Netherlands
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The Netherlands

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anacostaphd@gmail.com

Abstract

“A picture is worth a thousand words” – a familiar adage, and the reason why newspaper articles are commonly accompanied by photographs and infographics. Scientific publications are no different, so medical writers are frequently asked to contribute to the design of figures and visuals. There is therefore a growing need for medical writers to expand their skills to include designing graphical abstracts, scientific figures, and



Figure 1. Lascaux cave paintings

BioRender upcoming webinars

Icon library

Learning hub



All Academic Lab features
plus:

- **Sitewide organizational logins or single sign-on (SSO)**
- **Volume discounts**
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- **Multiple labs and teams**
- **Dedicated design support from scientific and medical illustrators**
- **Custom branded icons**
- **Dedicated account manager to provide ongoing custom support**
- **Onboarding seminars / webinars**
- **Usage data and metrics**





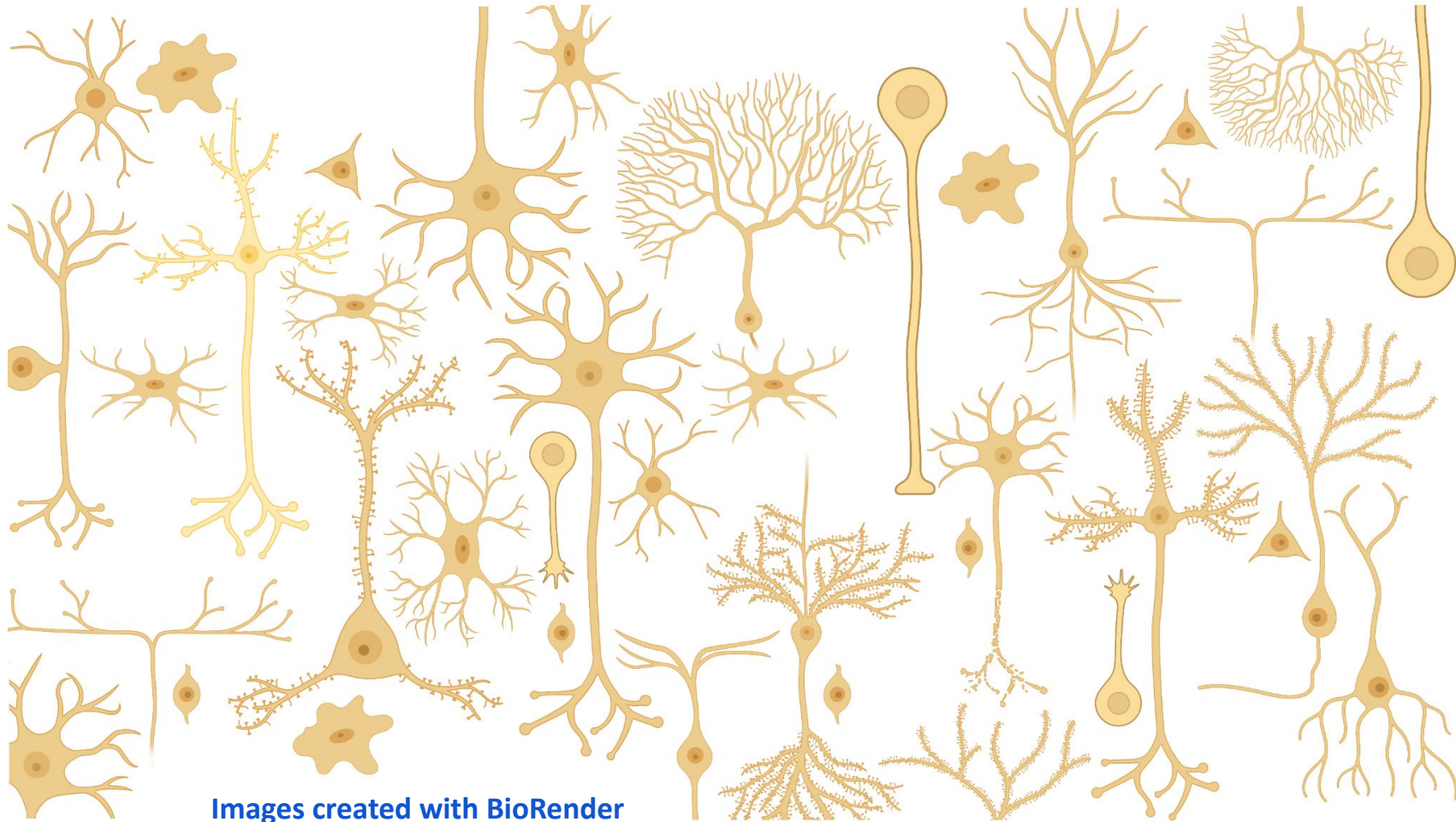
**National
Postdoc
Appreciation
Week**

September 20 - 24, 2021

Let's celebrate

POSTDOCS

[Image by ASBMB](#)



Images created with BioRender