

논문 작성을 위한  
**Grapical Abstract 및 Figure 작성을 위한**  
**프로그램 활용 팁**

Medical Illustrator  
장 동 수

# Graphical Abstract 제작

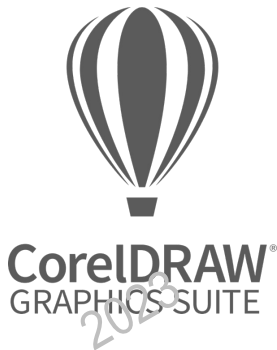
Figure 제작

2023





AFFINITY  
Designer2



유료프로그램



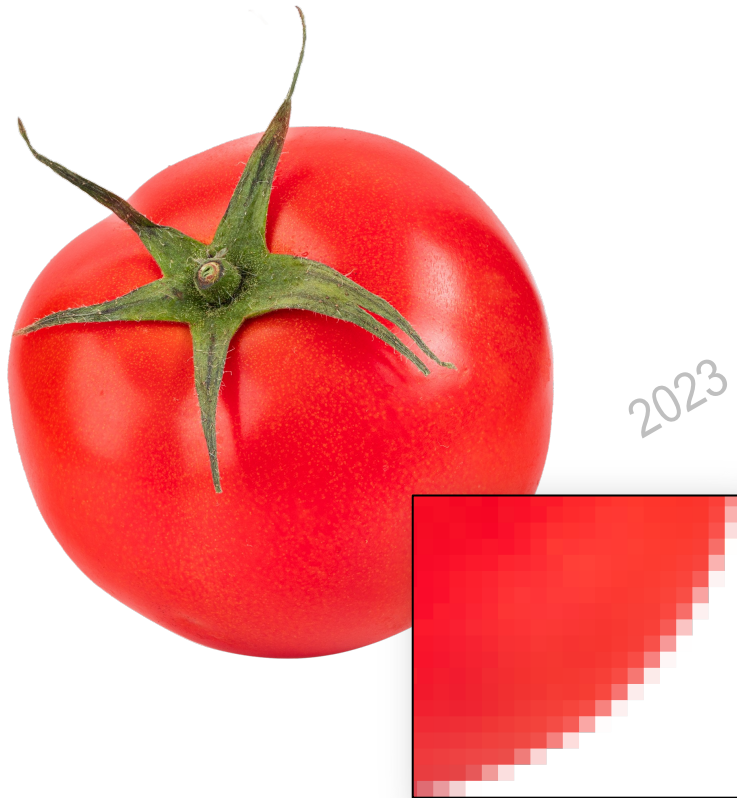
INKSCAPE



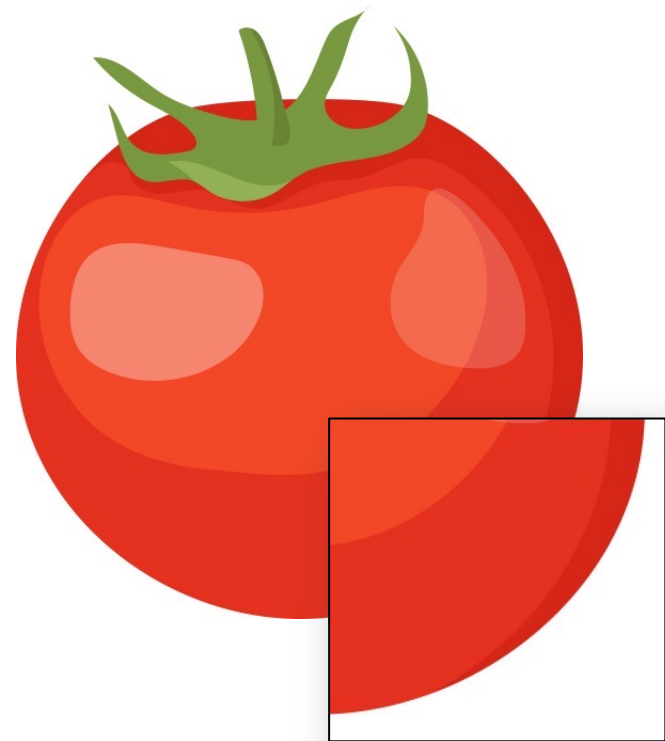
GIMP

무료 프로그램

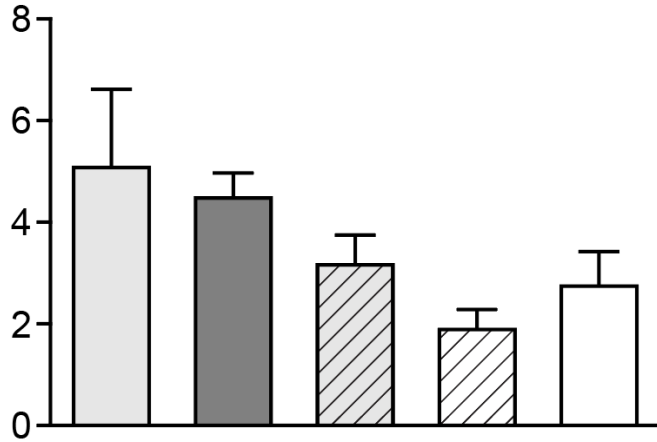
# Raster Images (Bitmap)



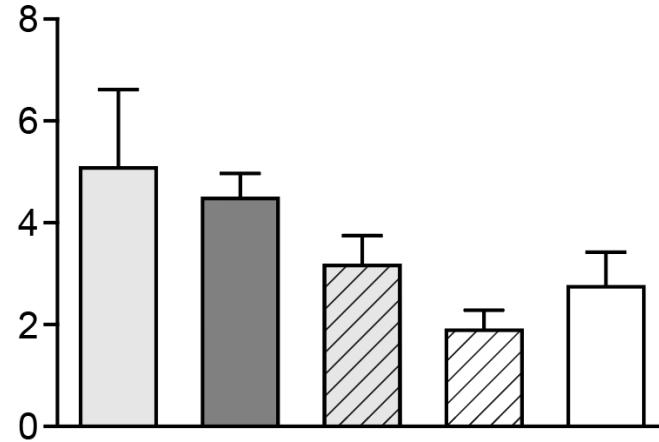
# Vector



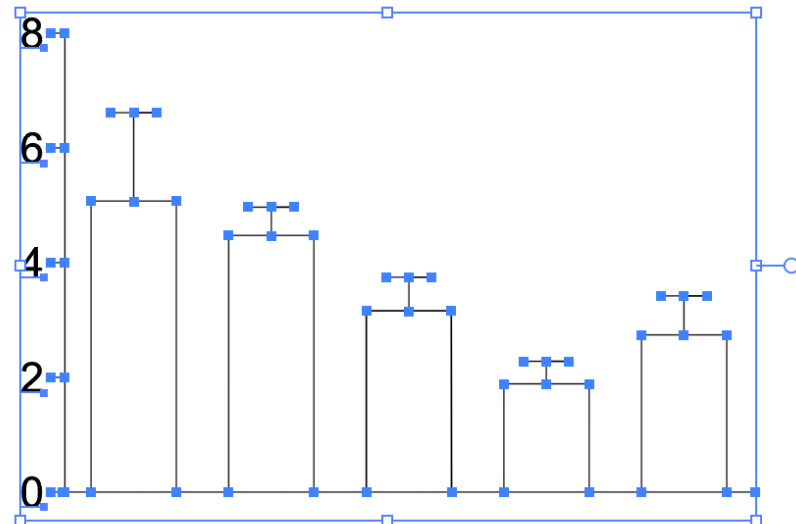
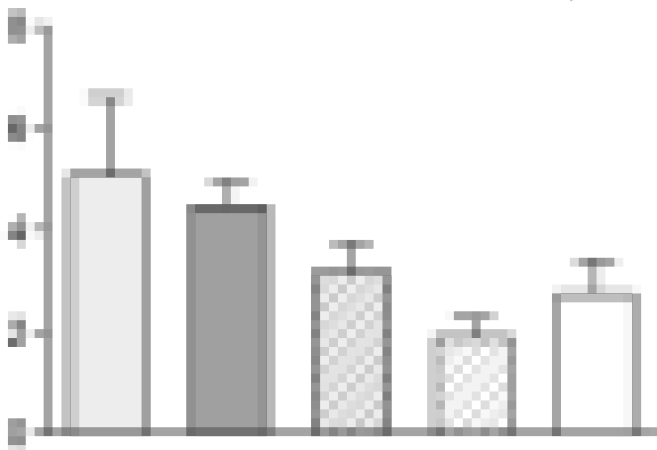
# Raster Images (Bitmap)



# Vector



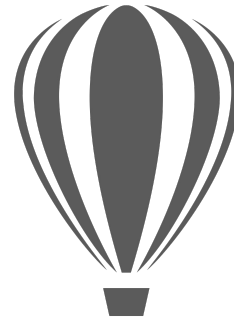
2023



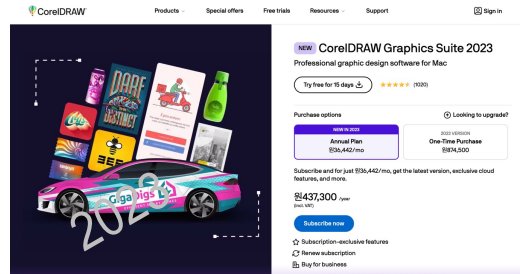
# 유료프로그램



7일 무료 평가판  
(신용카드 등록후 가능)  
첫 해 ₩23,100/  
월, 이후 갱신 시 ₩35,200/월



CorelDRAW<sup>®</sup>  
GRAPHICS SUITE



15일 무료 평가판  
(신용카드 등록 없음)  
월 36,442원

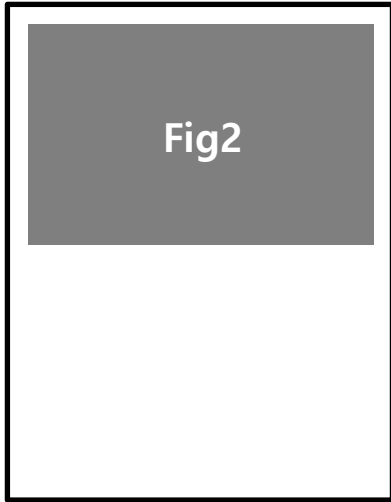
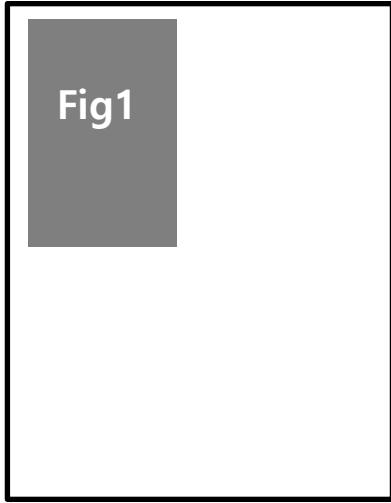


AFFINITY Designer2

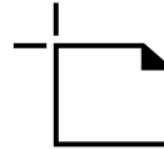
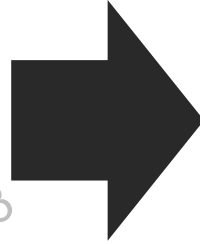
30일 무료 평가판  
월 99,000원



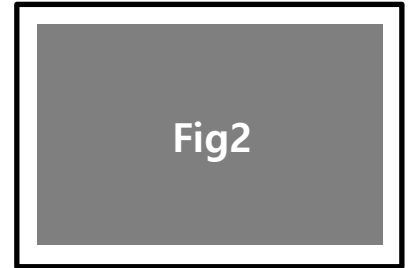
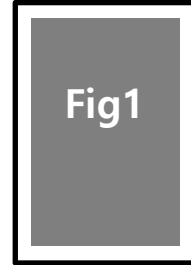
**A4**



2023

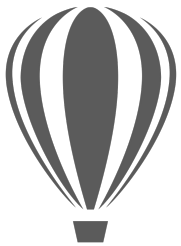
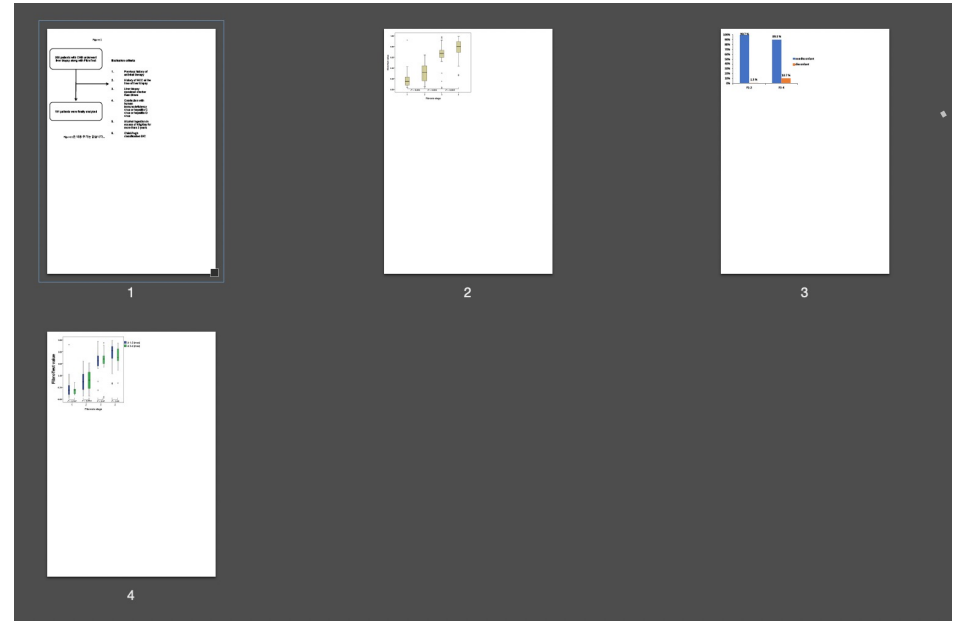


**Artboard tool**





**A4**



**CorelDRAW**  
GRAPHICS SUITE



**AFFINITY**  
Designer2



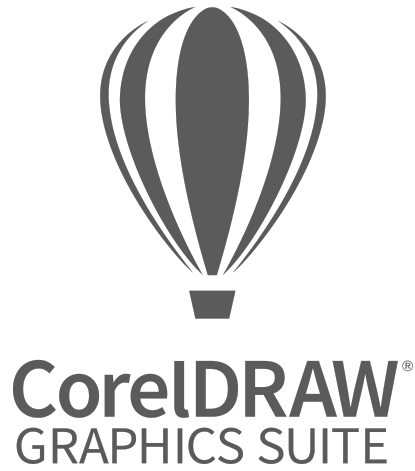
**INKSCAPE**



**GIMP**







15일 무료 평가판

CorelDRAW® Products ▾ Special offers Free trials Resources ▾ Support Sign in

**NEW** CorelDRAW Graphics Suite 2023  
Professional graphic design software for Mac

Try free for 15 days ↕ ★★★★★ (1020)

Purchase options Looking to upgrade?

NEW IN 2023	2023 VERSION
<b>Annual Plan</b> ₩36,442/mo	<b>One-Time Purchase</b> ₩874,500

Subscribe and for just ₩36,442/mo, get the latest version, exclusive cloud features, and more.

₩437,300 /year (incl. VAT)

[Subscribe now](#)

- ☆ Subscription-exclusive features
- 🔄 Renew subscription
- 🏢 Buy for business

2023  
✔ Thank you for downloading the 15-day trial of CorelDRAW Graphics Suite

This full-featured trial of the CorelDRAW Graphics Suite Subscription offers exclusive features and content available only with a subscription or a license with Maintenance.

If your download has not started, please click on one of the versions below to initiate the download.

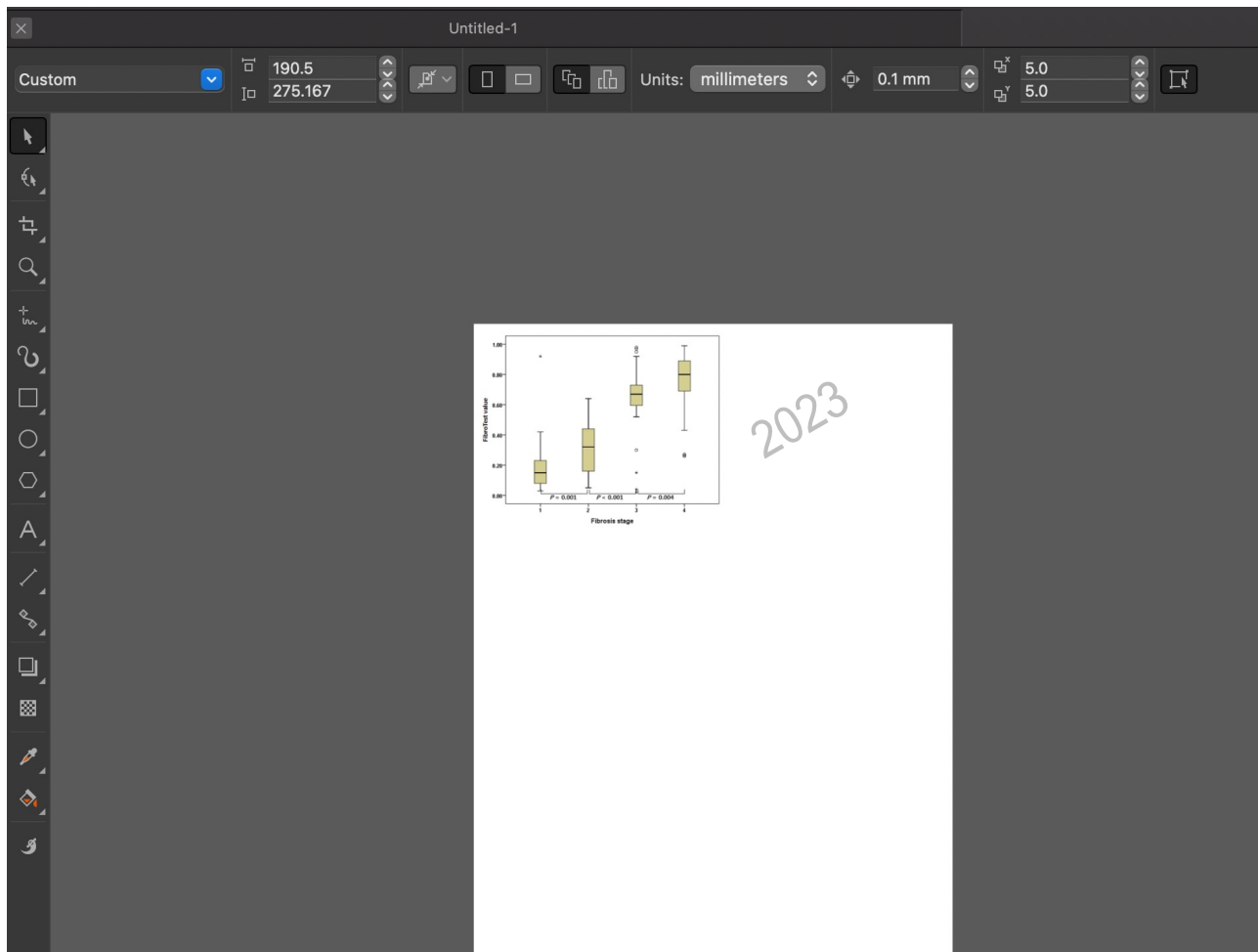
[Windows](#) | [Mac](#)

Looking for CorelDRAW Graphics Suite 2023 for one-time purchase? There is no trial of CorelDRAW Graphics Suite 2023 for perpetual use, and you cannot activate the one-time purchase product from the subscription trial. To learn more about the differences between the subscription and one-time purchase version, [compare products](#).

<https://ko.wizcase.com/download/coreldraw-graphics-suite/>



CorelDRAW<sup>®</sup>  
GRAPHICS SUITE



File Format: **TIF - TIFF Bitmap**

Compression Type: [ ]

Version: [ ]

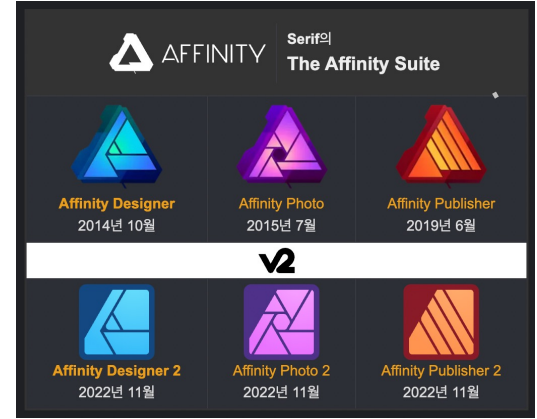
Cancel Export...

Page 3

- Guides
- Layer 1
- Page 4
  - Guides
  - Layer 1
- Page 5
  - Guides
  - Layer 1
- Master Page
  - Guides (all pages)
  - Desktop
  - Document Grid



# AFFINITY Designer2 30일 무료 평가판



**AFFINITY Designer 2** | DESKTOP | IPAD | TECH SPECS | [FREE TRIAL](#)

or go big with our V2 Universal Licence. No subscription.

Platform	Price	Payment Type	Buttons
macOS	₩99,000	ONE-OFF PAYMENT   incl. VAT	TRY FOR FREE, BUY NOW
Windows 2023	₩99,000	ONE-OFF PAYMENT   incl. VAT	TRY FOR FREE, BUY NOW
iPad	₩25,000	ONE-OFF PAYMENT   incl. VAT	TRY FOR FREE, BUY NOW

<https://affinity.serif.com/en-gb/designer/>



Artboard Size: Document Insert Artboard

**Page 1**

Figure 1

350 patients with CHB underwent liver biopsy along with Child-Pugh classification

191 patients were finally analyzed

Exclusion criteria

1. Previous history of alcoholic cirrhosis
2. History of HCC at the time of liver biopsy
3. Liver biopsy specimen shorter than 2cm
4. Child-Pugh class with intermediate/advanced value of Hepatitis B surface antigen (HBsAg)
5. Medical operation in ascites of 50g/day for more than 3 month
6. Child-Pugh classification B/C

**Page 2**

Box plot showing Fibrosis stage (F0, F1, F2, F3, F4) on the x-axis and Fibrosis value on the y-axis.

**Page 3**

Bar chart showing Fibrosis stage (F2, F4) on the x-axis and percentage on the y-axis.

Fibrosis stage	Percentage
F2	11.1%
F4	10.7%

**Page 4**

Box plot showing Fibrosis stage (F0, F1, F2, F3, F4) on the x-axis and Fibrosis value on the y-axis.

Legend: A 12 (red), A 14 (green), B 12 (blue), B 14 (purple)

2023

**Right Panel:**

Colour Swatches Stroke Appearance

H: 0 S: 0 L: 92 Opacity 100 % #: EBEBEB

Layers Brushes Quick FX Styles

Opacity: 100 % Normal

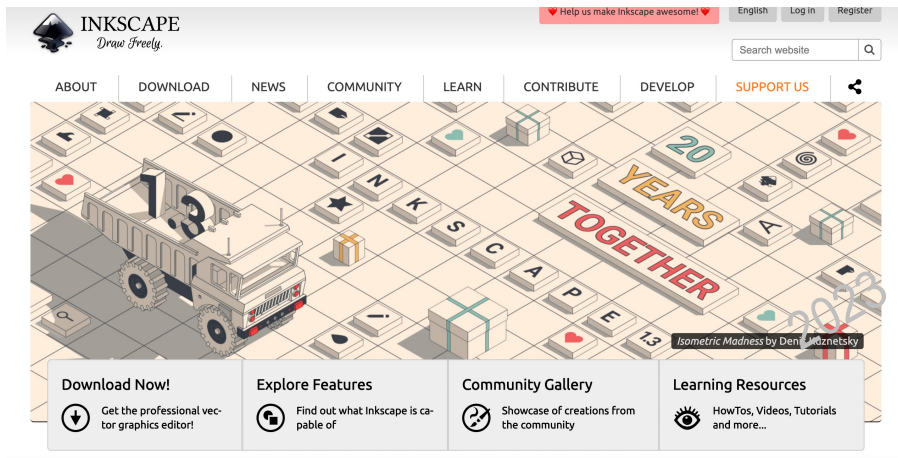
Page 1

- Curves
- Curves
- Figure1은 내용 추가는 없습...
- 191 patients were finally
- 350 patients with CHB u...
- Child-Pugh classification
- 6. 6.

Transform Navigator History

X: 0 pt W: 540 pt Y: 0 pt H: 423.4 pt R: 0° S: 0°

# 무료프로그램



<https://inkscape.org/>



<https://www.gimp.org/>



INKSCAPE

Figure제작실습.pdf.2023\_08\_07\_06\_37\_01.1.svg - Inkscape

X: 0.000 Y: 0.000 W: 0.000 H: 0.000 px

1. Patients with CRP increased from being along with New-Onset

2. Exclusion criteria

1. Primary history of cardiac disease
2. History of stroke
3. History of any chronic kidney disease
4. Current use of ACE inhibitors
5. Current use of beta-blockers
6. Current use of diuretics
7. Current use of statins
8. Current use of aspirin
9. Current use of oral anticoagulants
10. Current use of insulin
11. Current use of oral hypoglycemics
12. Current use of oral corticosteroids
13. Current use of immunosuppressants
14. Current use of anti-infective agents
15. Current use of anti-epileptic drugs
16. Current use of anti-psychotics
17. Current use of anti-depressants
18. Current use of anti-anxiety agents
19. Current use of anti-nausea agents
20. Current use of anti-pain agents
21. Current use of anti-cancer agents
22. Current use of anti-hypertensive agents
23. Current use of anti-lipid agents
24. Current use of anti-arrhythmic agents
25. Current use of anti-thrombotic agents
26. Current use of anti-platelet agents
27. Current use of anti-coagulant agents
28. Current use of anti-osteoporosis agents
29. Current use of anti-osteoporosis agents
30. Current use of anti-osteoporosis agents

3. CRP values

Group	CRP (mg/L)
Group 1	0.15
Group 2	0.18

4. CRP values

Group	CRP (mg/L)
Group 1	0.15
Group 2	0.18

2023

선택된 객체가 없습니다. 클릭, Shift+클릭, Alt+객체 위로 마우스 스크롤 또는 선택하려는 객체 주변을 드래그합니다.

X: 488.95 Y: -715.13 Z: 30% R: 0.00°



GIMP

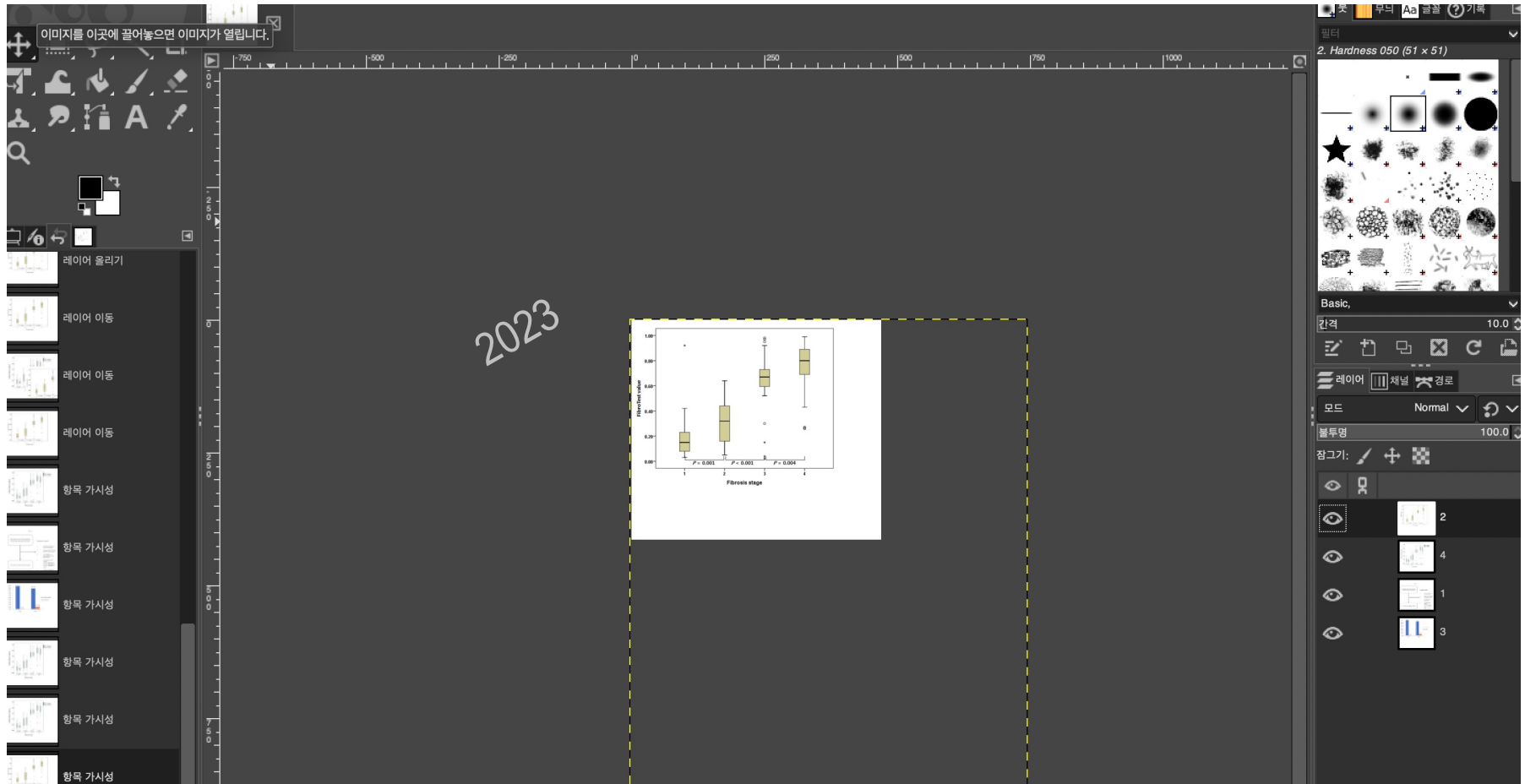


Fig1

# Fig1 7.5 inch 기준



슬라이드1 속성

사진 크기	720 x 567
너비	720픽셀
높이	567픽셀
수평 해상도	96 DPI
수직 해상도	96 DPI
비트 수준	24
압축	LZW

확인 취소 적용(A)

Fig1(크기: 7.5 inch,  
용량: 29.4KB)

Figure 추출방법-01 속성

사진 크기	2251 x 1636
너비	2251픽셀
높이	1636픽셀
수평 해상도	300 DPI
수직 해상도	300 DPI
비트 수준	24
압축	압축되지 않음

확인 취소 적용(A)

Fig1(크기: 7.5 inch,  
용량: 10.8MB)

Figure 추출방법\_LZW-01 속성

사진 크기	2251 x 1636
너비	2251픽셀
높이	1636픽셀
수평 해상도	300 DPI
수직 해상도	300 DPI
비트 수준	24
압축	LZW

확인 취소 적용(A)

Fig1(크기: 7.5 inch,  
용량: 382KB)





# Raster Images

# Vector Images



LZW(압축파일)

Fig1(크기: 7.5 inch,  
용량: 10.8MB)

Fig2(크기: 5 inch,  
용량: 7.30MB)

Fig3 (크기: 5.5 inch,  
용량: 10.2MB)

Fig1(크기: 7.5 inch,  
용량: 382KB)

Fig2(크기: 5 inch,  
용량: 292KB)

Fig3 (크기: 5.5 inch,  
용량: 391KB)

Fig1(크기: 7.5 inch,  
용량: 1.44MB)

Fig2(크기: 5 inch,  
용량: 1.31MB)

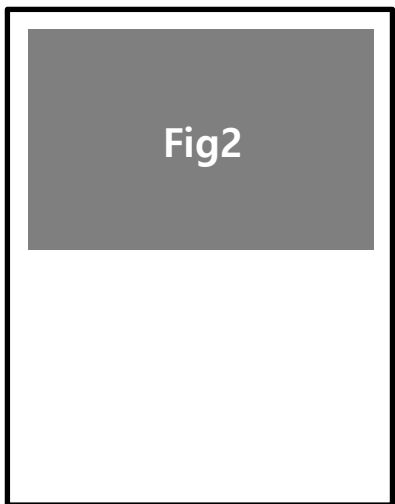
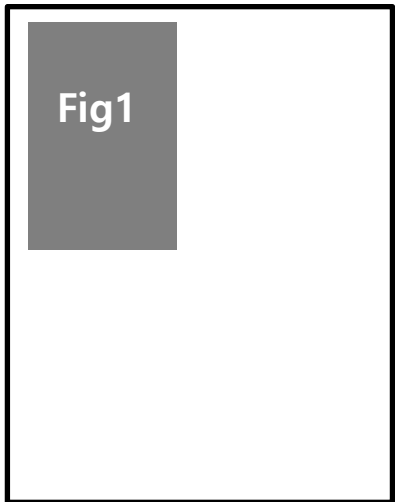
Fig3 (크기: 5.5 inch,  
용량: 0.98MB)

Fig1(크기: 7.5 inch,  
용량: 72.8KB)

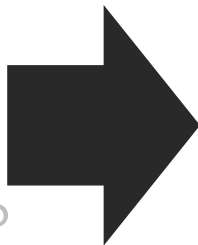
Fig2(크기: 5 inch,  
용량: 73.0KB)

Fig3 (크기: 5.5 inch,  
용량: 73.0KB)

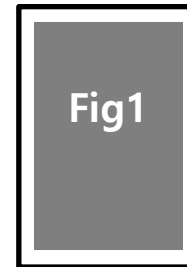
A4

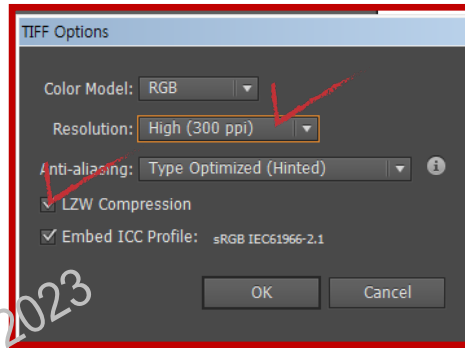
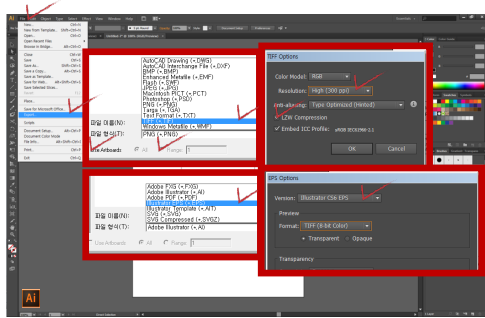
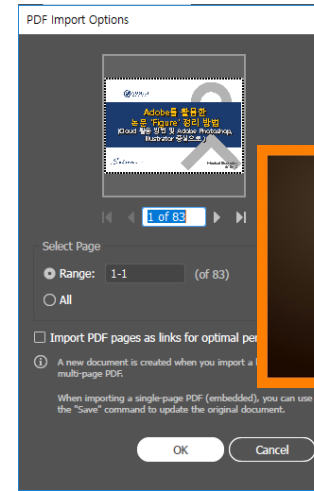
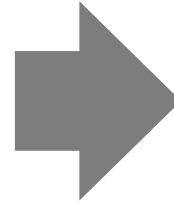
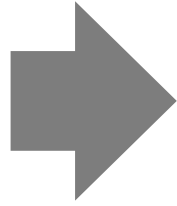


2023

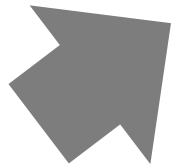


Artboard tool

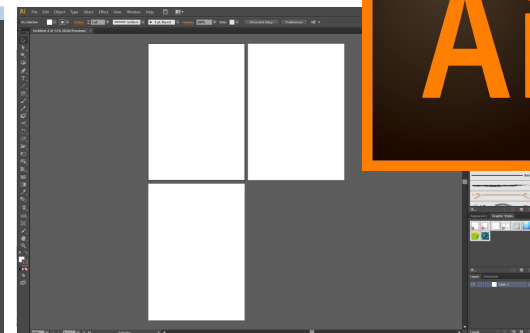
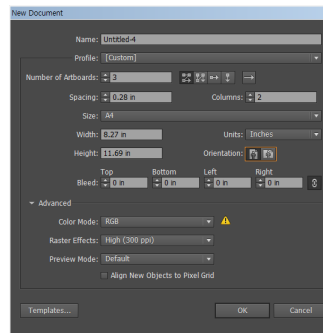
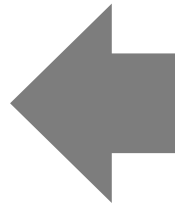
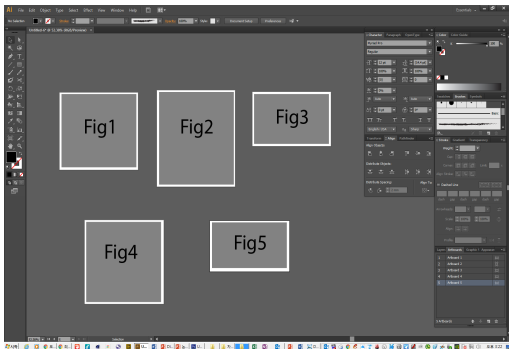




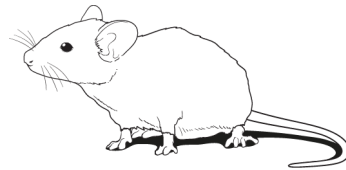
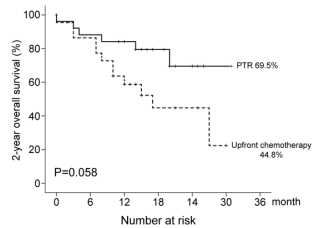
2023



# Tiff & eps

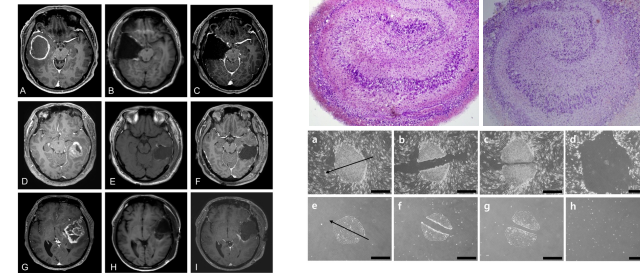


# Figure types 구분



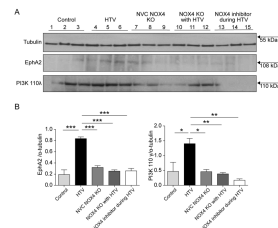
## Line Art

(1000dpi 음영 없는 흑백 그래픽)



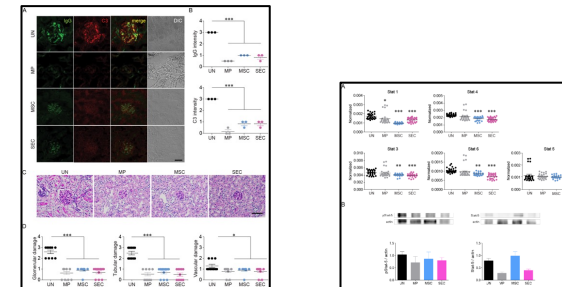
## Halftones

(300dpi 흑백 또는 칼라 글씨 없는 이미지)



## Grayscale

(300 dpi )



## Combination Figures

(600-900dpi 흑백 또는 칼라 글씨 있는 이미지)

### Format

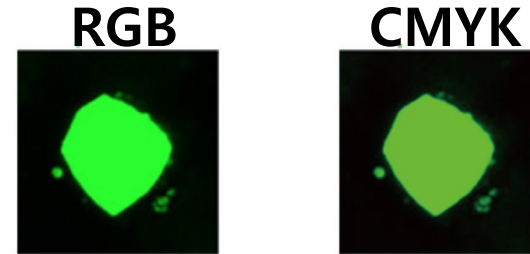
Tiff : Tagged Image File Format  
EPS: Encapsulated PostScript

- **Tiff** (Minimum Resolution: 300 dpi)
- **EPS or PDF**



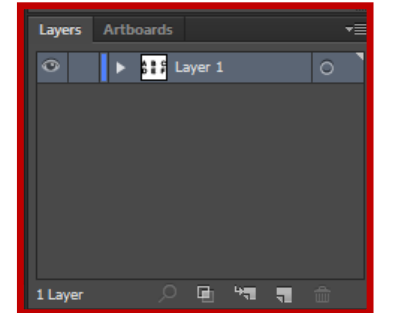
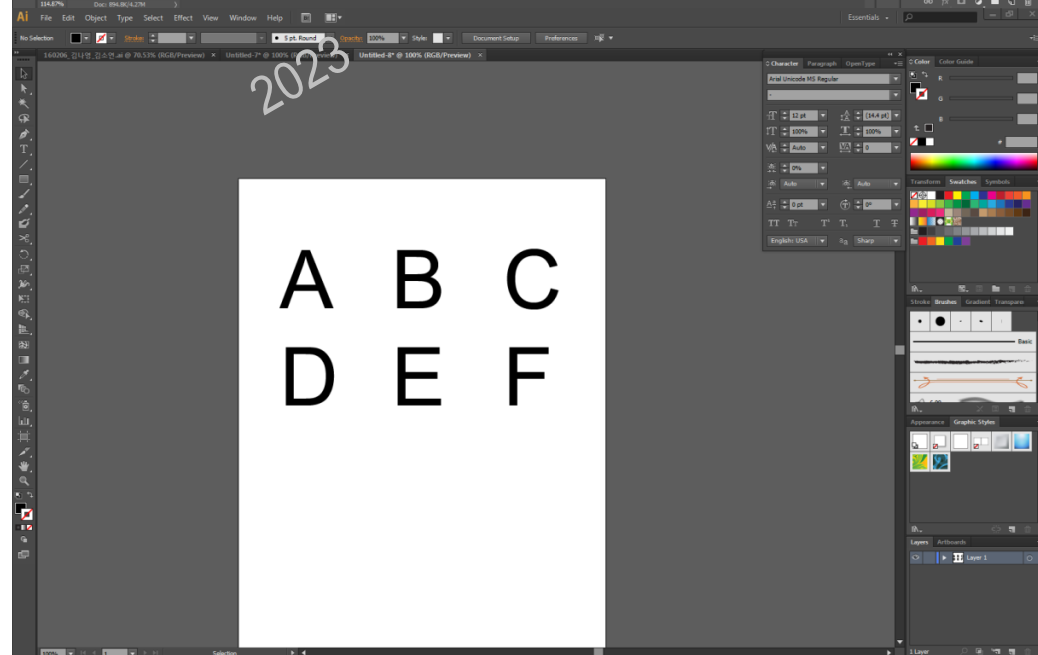
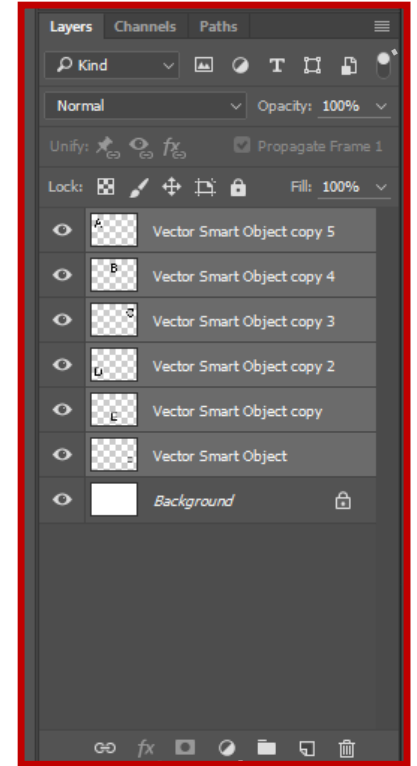
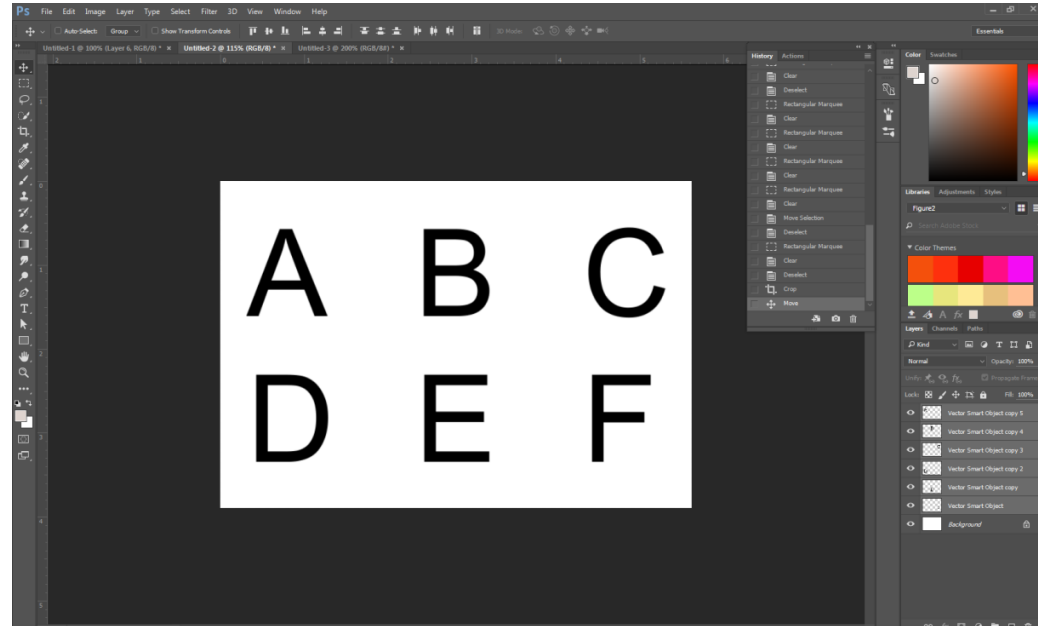
# Effectively Creating an abstract figure

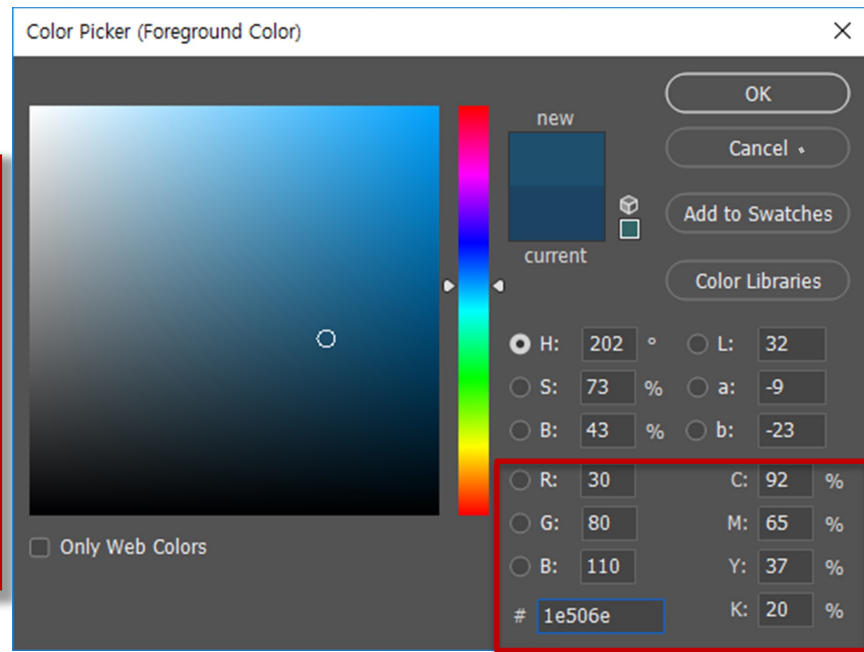
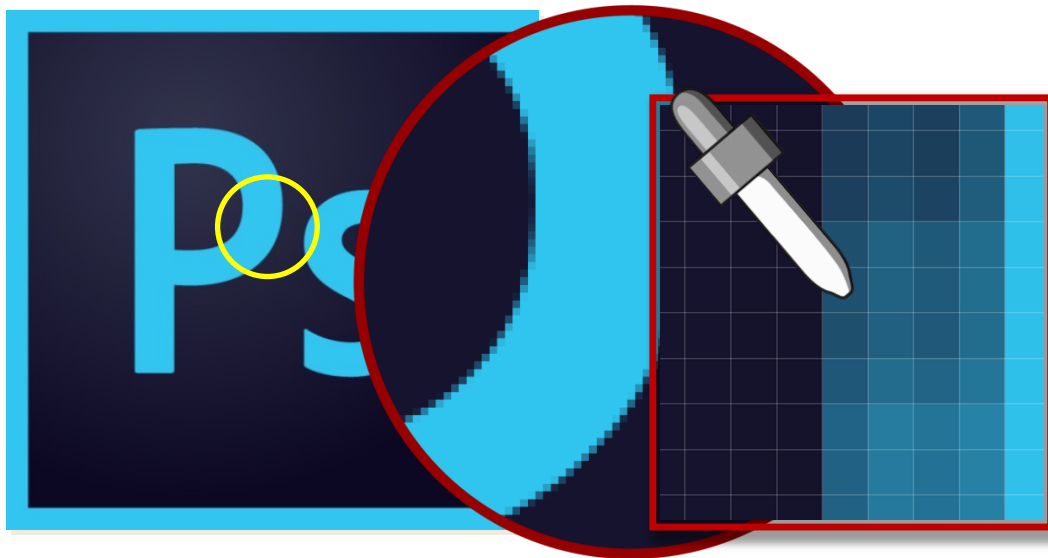
- Differentiating RGB and CMYK
- Statistics(SPSS, R, PRISM, Excel, etc), export(eps, svg)
- Resizing resolution and Artboards based on the journal instructions
- Converting into Tiff, eps, or PDF



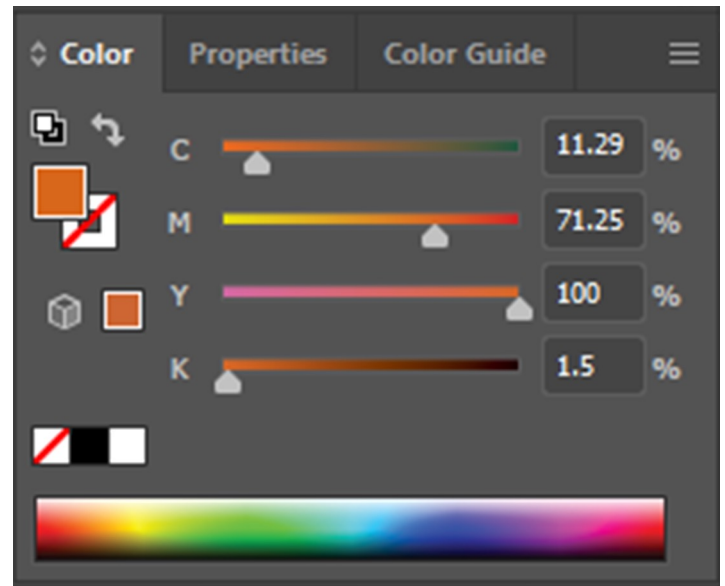
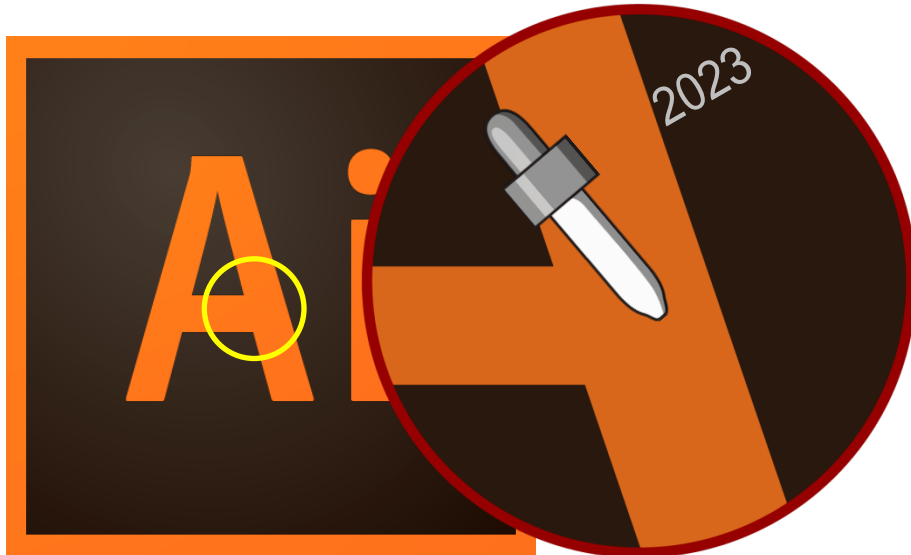
2023

# Photoshop, Illustrator 차이

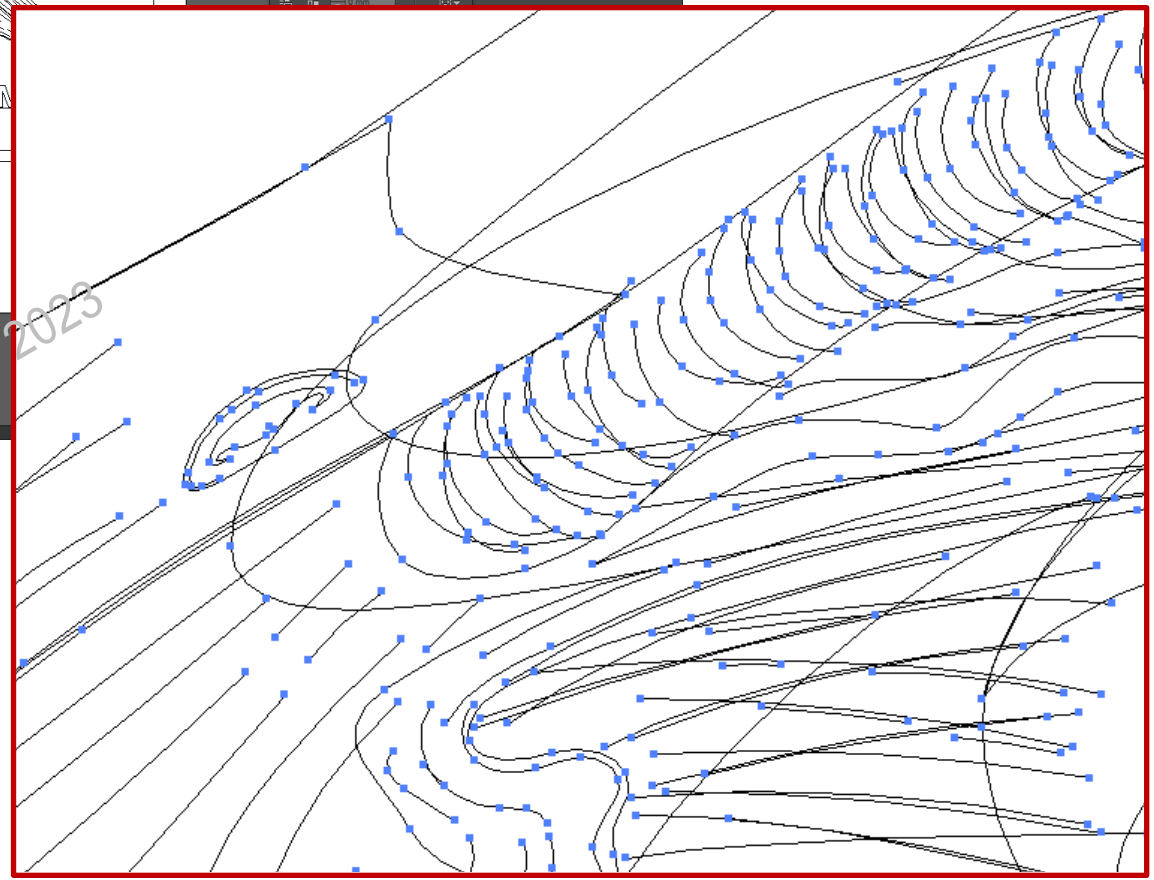
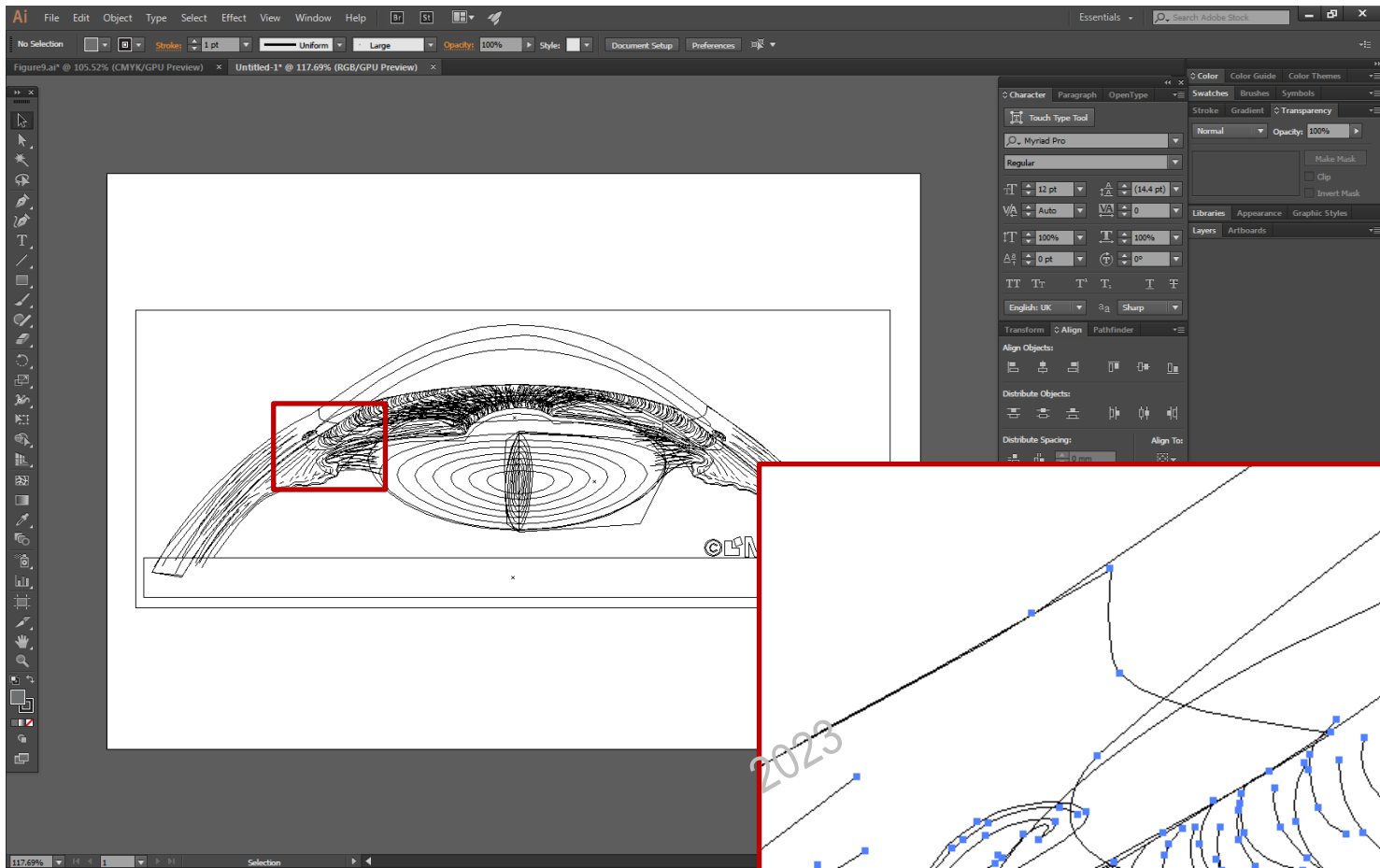




## Raster Images(Bitmap)



## Vector





# Raster Images (Bitmap)

**PSD**

**TIFF**

**JPEG**

**GIF**

**PNG**

...

2023

# Vector

**AI**

**EPS**

**SVG**

**EMF**

**WMF**

...

# 꼭 필요한 Illustrator 메뉴 확인

**Tools panel**

**Document**

**Control panel**

**Window panel**

<u>Selection Tool (V)</u>	<u>Direct Selection Tool (A)</u>
Magic Wand Tool (Y)	Lasso Tool (Q)
<u>Pen Tool (P)</u>	<u>Type Tool (T)</u>
Line Segment Tool (L)	<u>Rectangle Tool (M)</u>
Paintbrush Tool (B)	Pen Tool (N)
Blob Brush Tool (Shift + B)	Eraser Tool (Shift + E)
Rotate Tool (R)	Scale Tool (S)
Width Tool (Shift + W)	Free Transform Tool (E)
Shape Builder Tool (Shift + M)	Perspective Grid Tool (Shift + P)
Mesh Tool (U)	Gradient Tool (G)
<u>Eyedropper Tool (I)</u>	Blend Tool (W)
Symbol Sprayer Tool (Shift + S)	Column Graph Tool (J)
<u>Artboard Tool (Shift + O)</u>	Slice Tool (K)
<u>Hand Tool (H)</u>	<u>Zoom Tool (Z)</u>
Fill Color	Stroke Color
Default Fill and Stroke (D)	Fill Options
Drawing Modes	Change Screen Mode (F)

# Window 단축키

control + c 복사

control + v 붙여넣기

control + z 실행 취소

control + x 잘라내기

control + f 앞으로 가져오기

control + b 뒤로 보내기

control + 2 고정하기

control + alt + 2 고정해제

control + 3 감추기

control + alt + 3 나타내기

control + G 그룹하기

control + shift + G 그룹풀기

# Mac 단축키

command + c 복사

command + v 붙여넣기

command + z 실행 취소

command + x 잘라내기

command + f 앞으로 가져오기

command + b 뒤로 보내기

command + 2 고정하기

command + alt + 2 고정해제

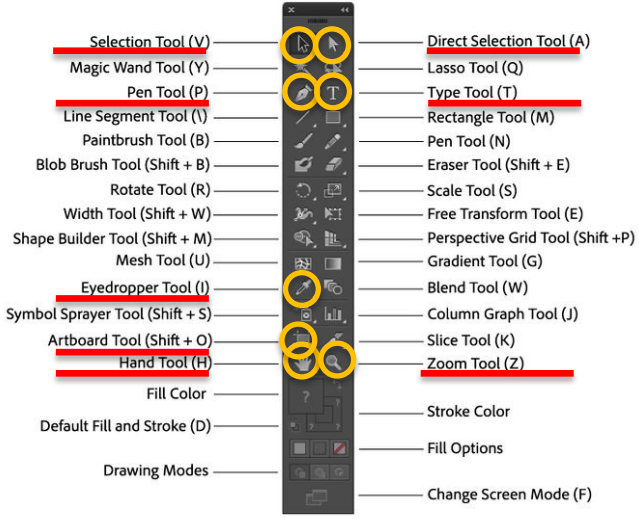
command + 3 감추기

command + alt + 3 나타내기

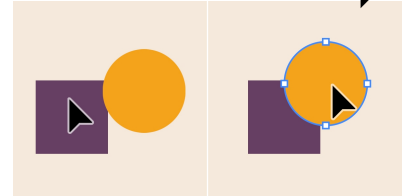
command + G 그룹하기

command + shift + G 그룹풀기

2023



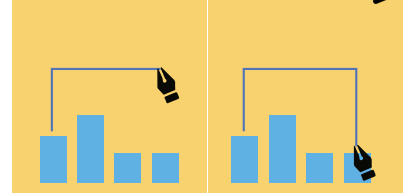
**Selection Tool(V)**



**Direct selection tool**



**Direct selection tool**



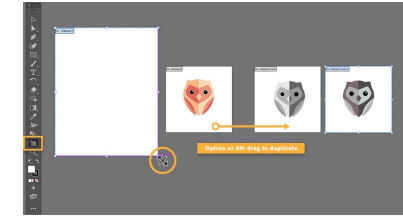
**Type Tool**



**Eyedropper(spoiler)**



**Artboard Tool**

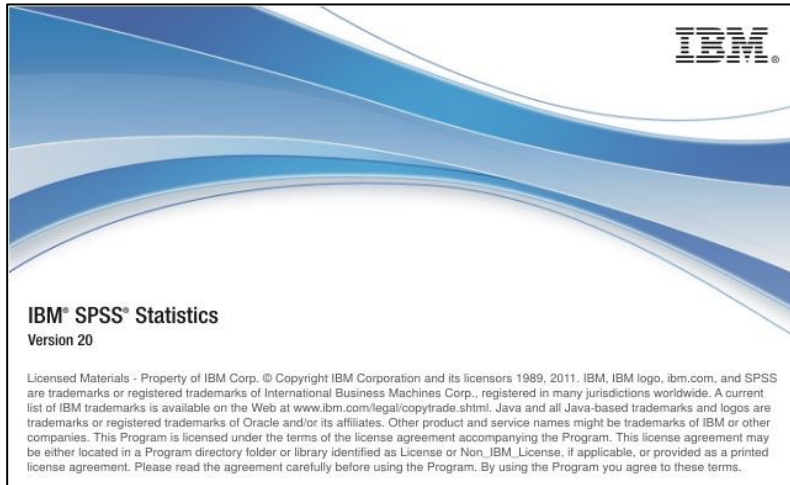


**Hand Tool**

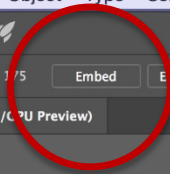
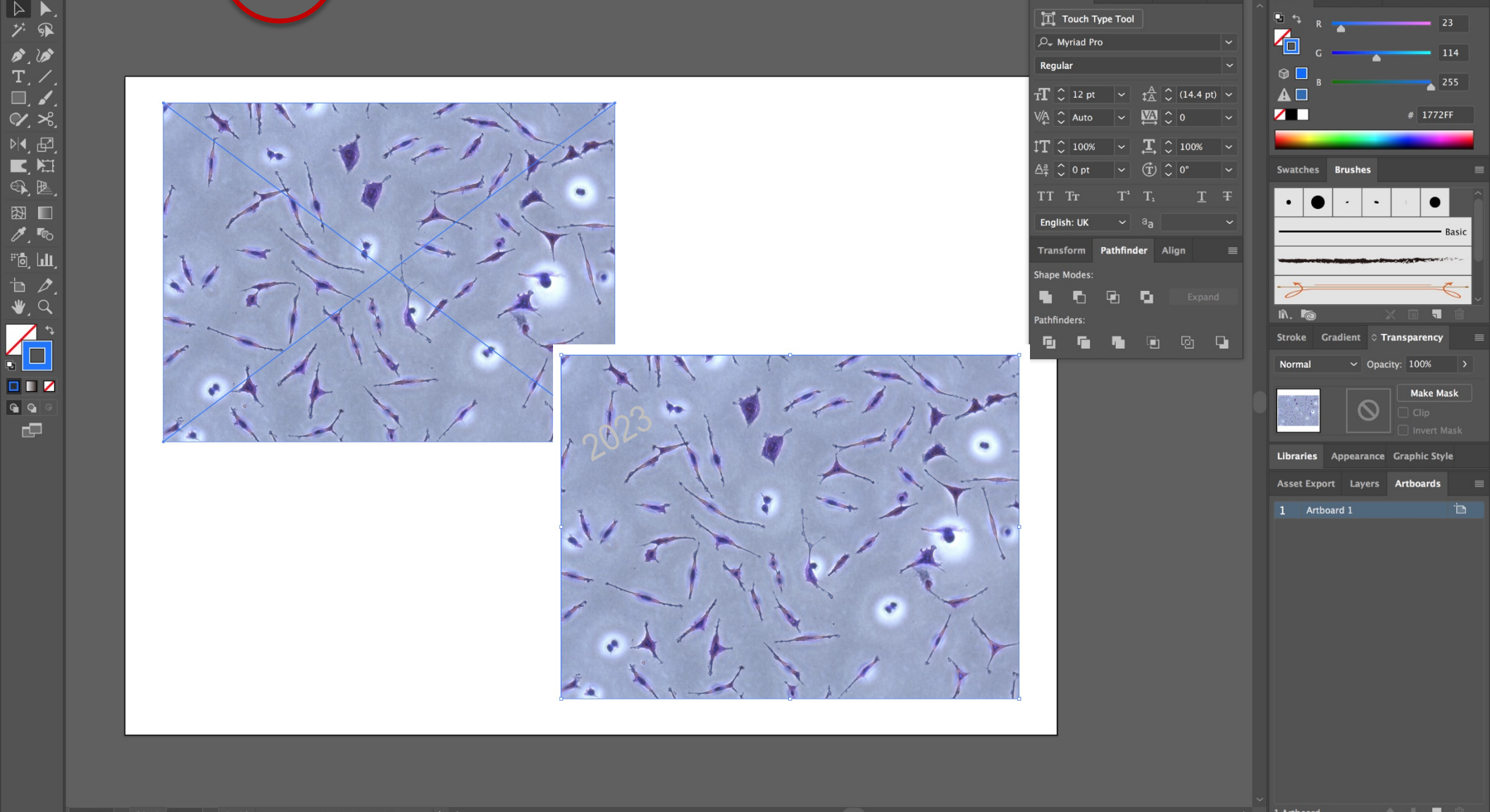


**Zoom Tool**





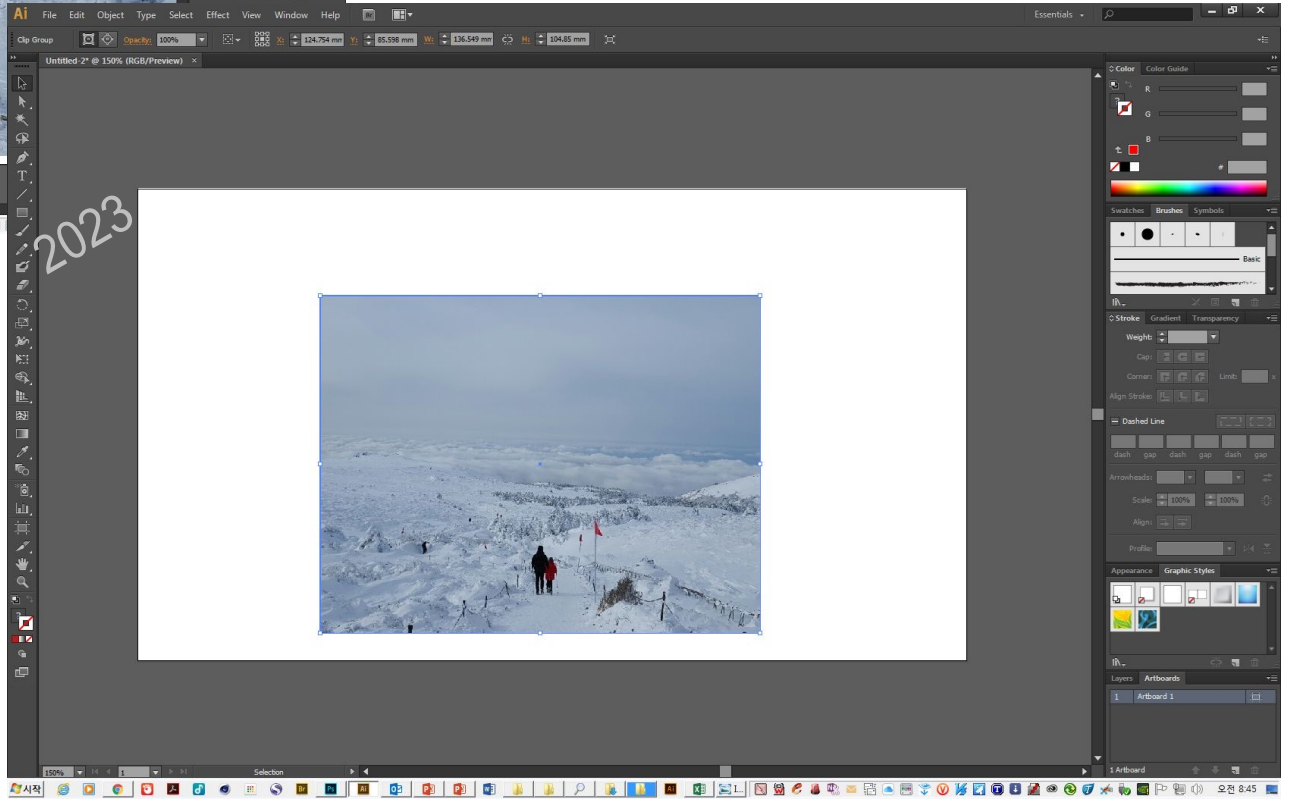
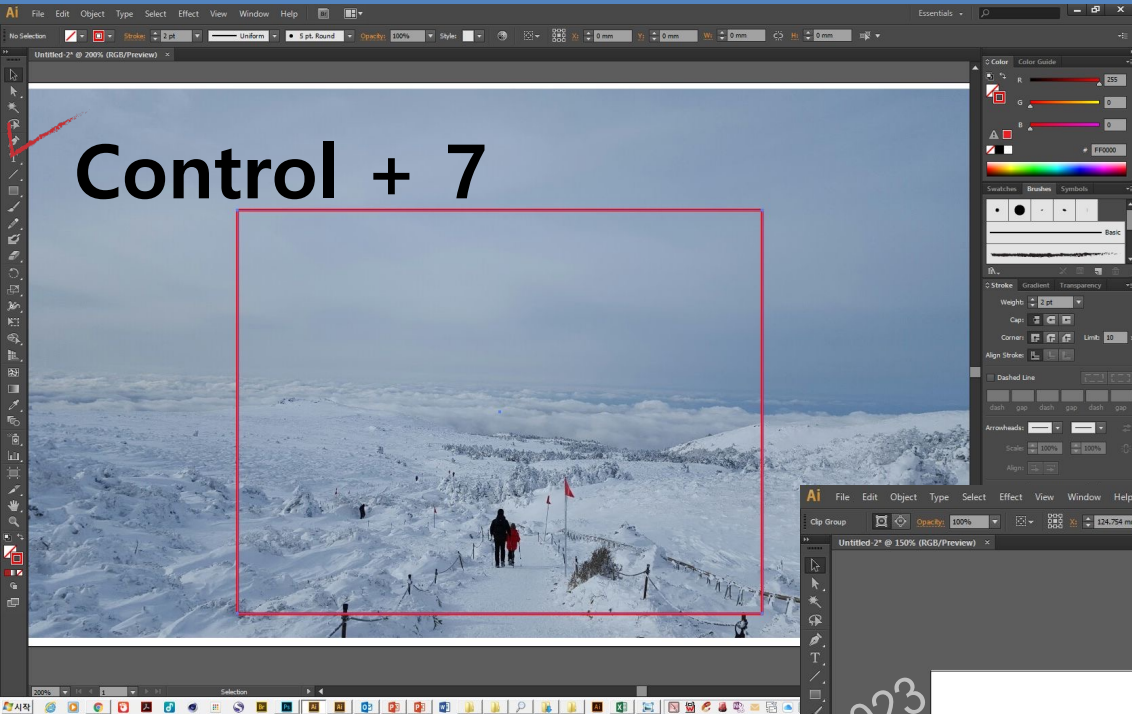
Format: **eps**, **svg**, emf, wmf



Character Paragraph OpenType Touch Type Tool Myriad Pro Regular 12 pt (14.4 pt) Auto 0 100% 100% 0 pt 0° English: UK Transform Pathfinder Align Shape Modes: Expand Pathfinders:

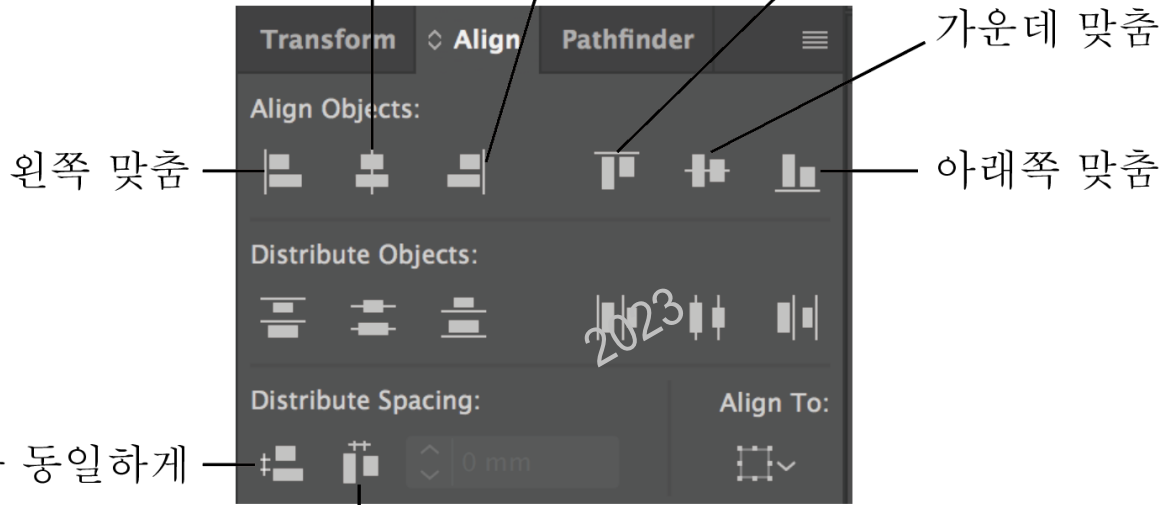
Color Color Guide R 23 G 114 B 255 # 1772FF Swatches Brushes Stroke Gradient Transparency Normal Opacity: 100% Make Mask Clip Invert Mask Libraries Appearance Graphic Style Asset Export Layers Artboards 1 Artboard 1

# Clipping Mask 기능 및 Align

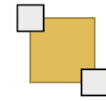




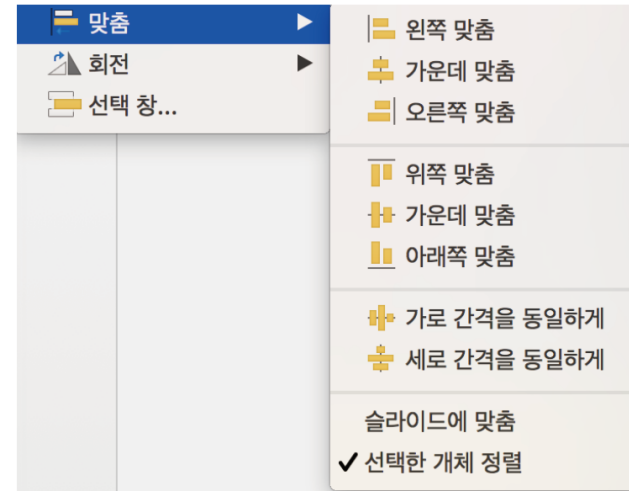
가운데 맞춤    오른쪽 맞춤    위쪽 맞춤



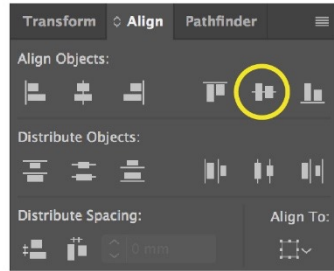
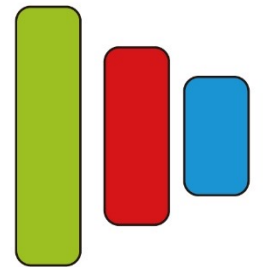
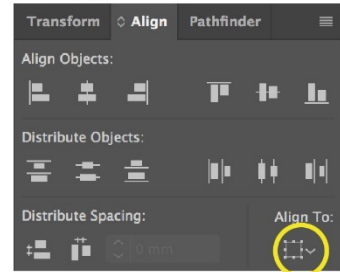
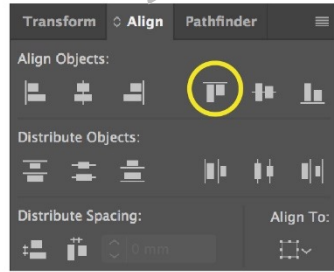
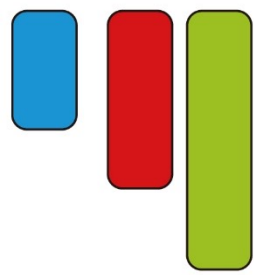
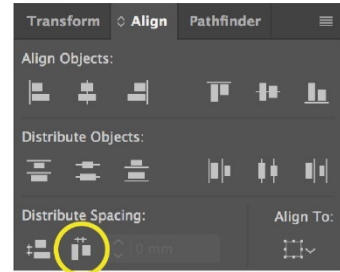
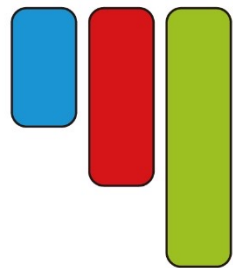
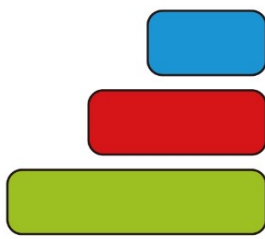
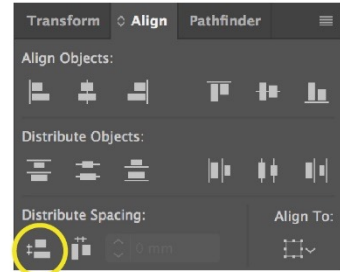
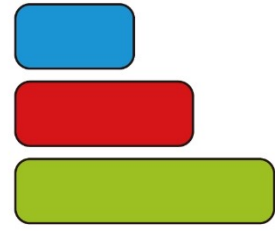
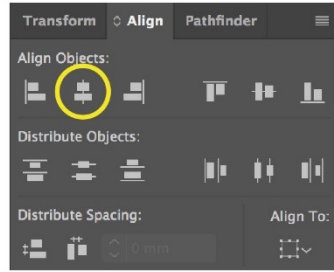
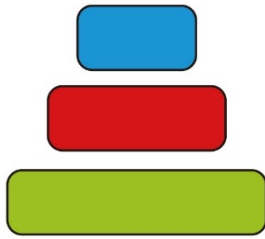
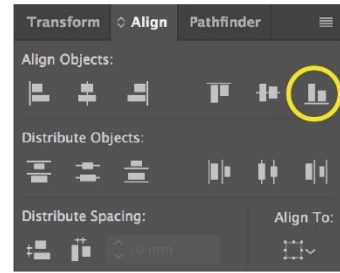
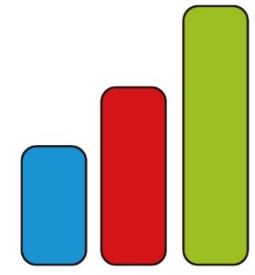
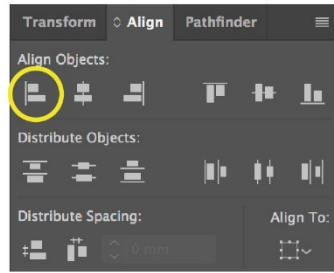
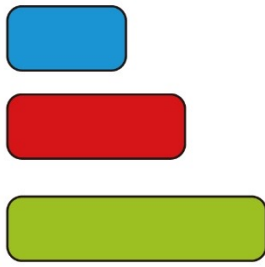
홈 →



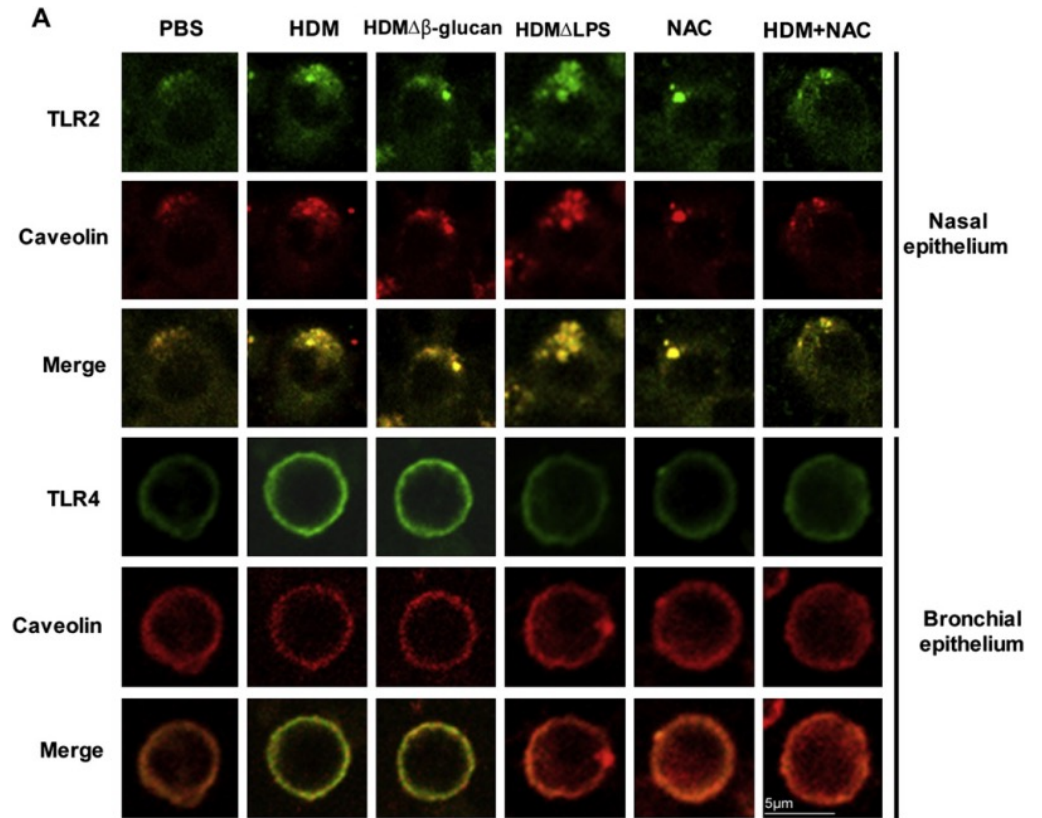
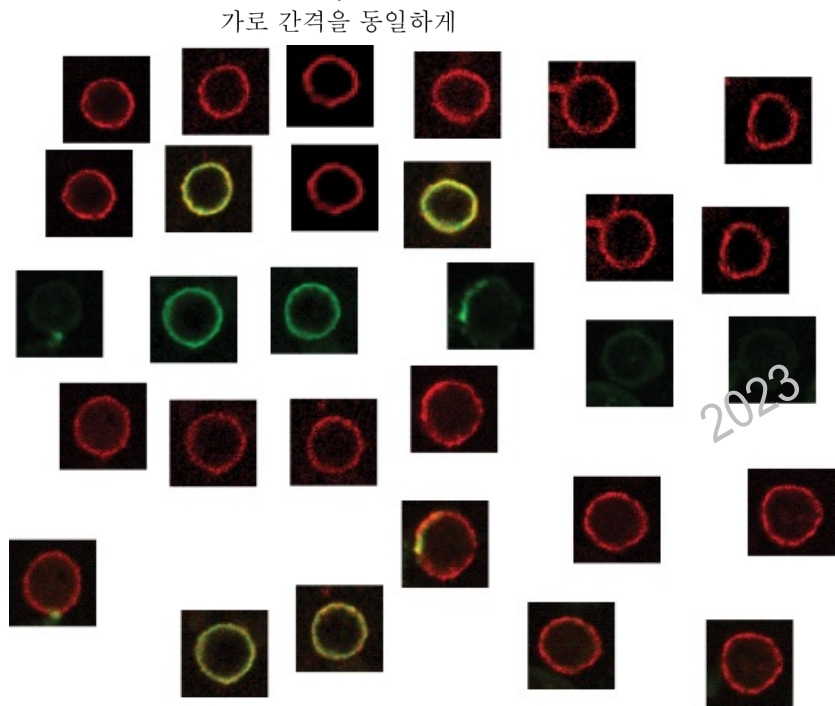
정렬



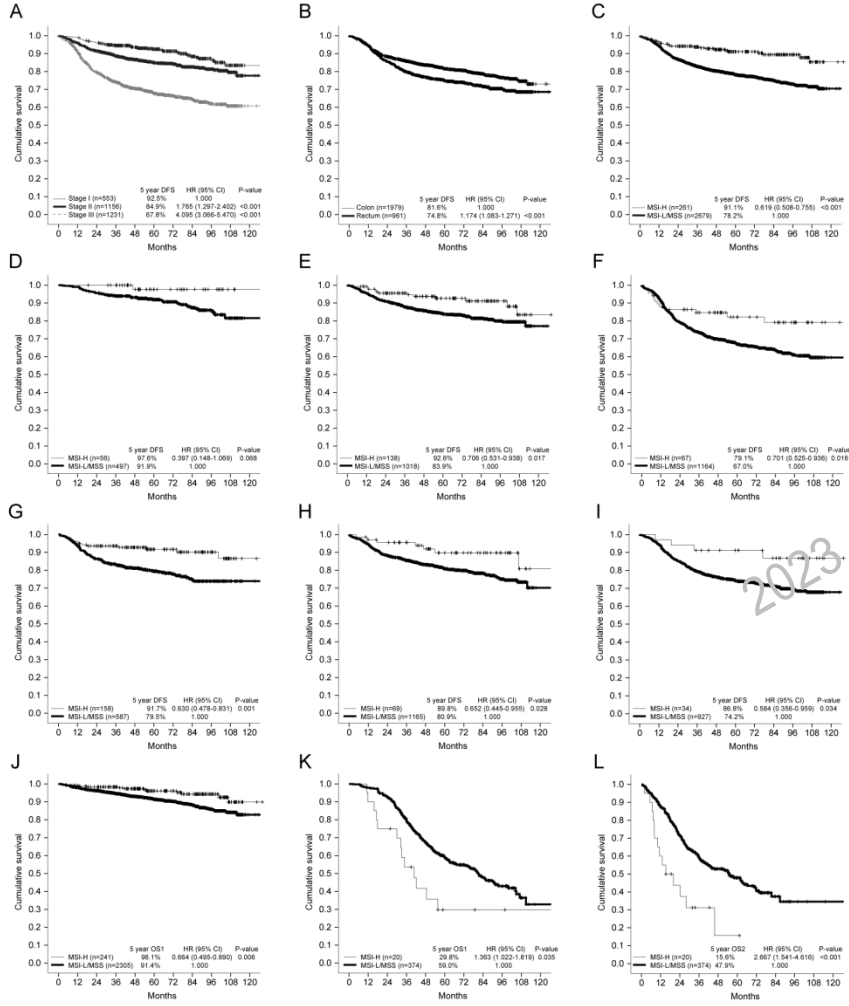




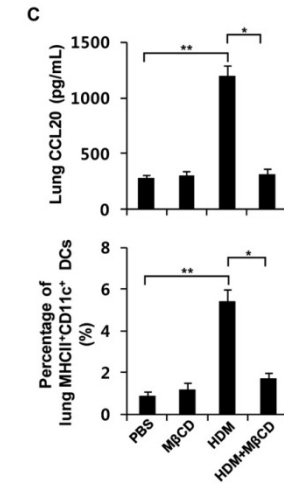
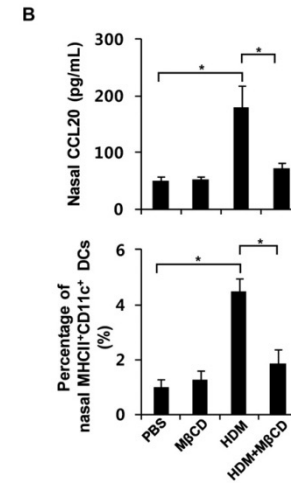
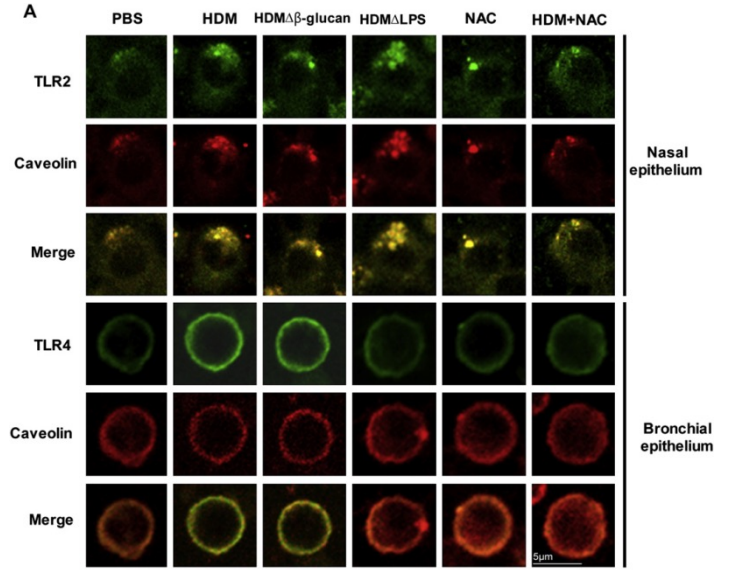
2023

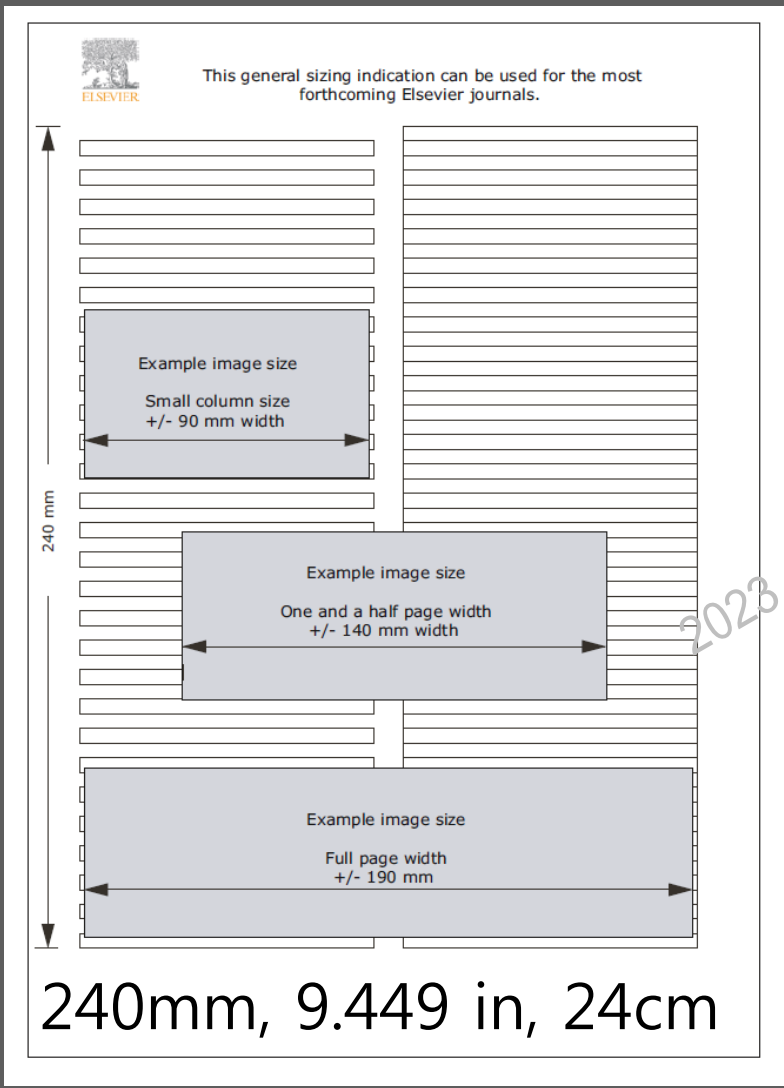
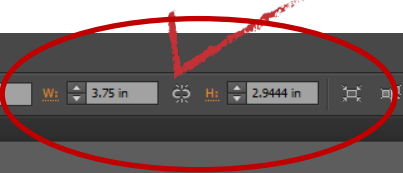


# A Type



# B Type





8.992cm	9.525cm
90 mm	95.25 mm
3.54 in	3.75 in

140 mm	13.97cm
5.5 in	

190mm	19.05cm
7.5 in	

Color Color Guide

R 35  
G 31  
B 32  
# 231F20

Transform Swatches Symbols

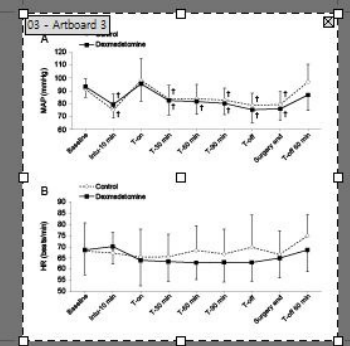
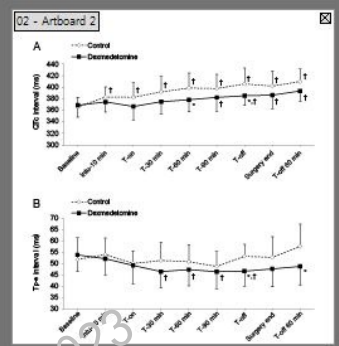
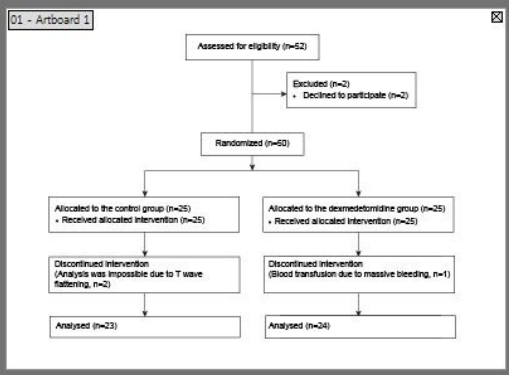
Stroke Brushes Gradient Transparei

Appearance Graphic Styles

Layers Artboards

Layer 1

160206\_김나영\_김소연.ai\* @ 66.67% (RGB/Preview)



Color Guide

R: \_\_\_\_\_

G: \_\_\_\_\_

B: \_\_\_\_\_

# \_\_\_\_\_

Swatches Brushes Symbols

Basic

Stroke Gradient Transparency

Weight: \_\_\_\_\_

Cap: \_\_\_\_\_

Corner: \_\_\_\_\_ Limit: \_\_\_\_\_

Align Stroke: \_\_\_\_\_

Dashed Line

dash gap dash gap dash gap

Arrowheads: \_\_\_\_\_

Scaler: 100% 100%

Align: \_\_\_\_\_

Profiles: \_\_\_\_\_

Appearance Graphic Styles

Layers Artboards

1 Artboard 1

2 Artboard 2

3 Artboard 3

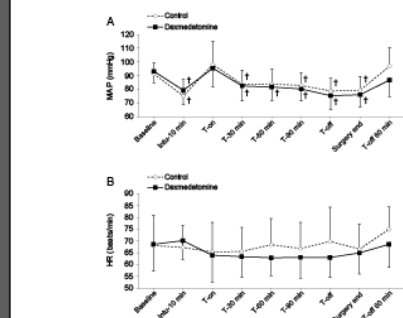
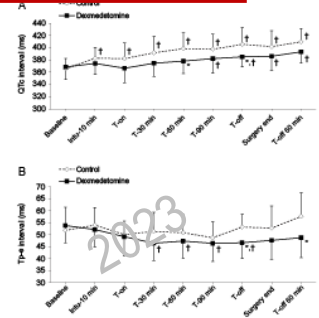
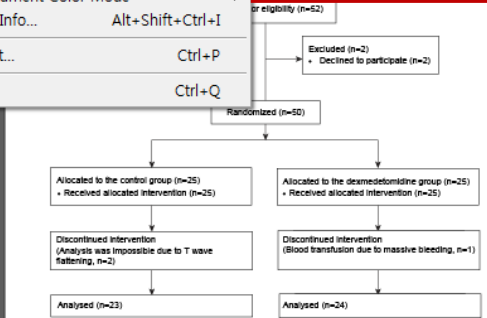
- New... Ctrl+N
- New from Template... Shift+Ctrl+N
- Open... Ctrl+O
- Open Recent Files
- Browse in Bridge... Alt+Ctrl+O
- Close Ctrl+W
- Save Ctrl+S
- Save As... Shift+Ctrl+S
- Save a Copy... Alt+Ctrl+S
- Save as Template...
- Save for Web... Alt+Shift+Ctrl+S
- Save Selected Slices...
- Revert F12
- Place...
- Save for Microsoft Office...
- Export...
- Scripts
- Document Setup... Alt+Ctrl+P
- Document Color Mode
- File Info... Alt+Shift+Ctrl+I
- Print... Ctrl+P
- Exit Ctrl+Q

파일 이름(N):

파일 형식(T):

Use Artboards  All  Range: 1-3

Adobe FXG (\*.FXG)  
 Adobe Illustrator (\*.AI)  
 Adobe PDF (\*.PDF)  
 Illustrator EPS (\*.EPS)  
 Illustrator Template (\*.AIT)  
 SVG (\*.SVG)  
 SVG Compressed (\*.SVGZ)  
 Adobe Illustrator (\*.AI)



Color Guide: R 35, G 31, B 32. # 231F20

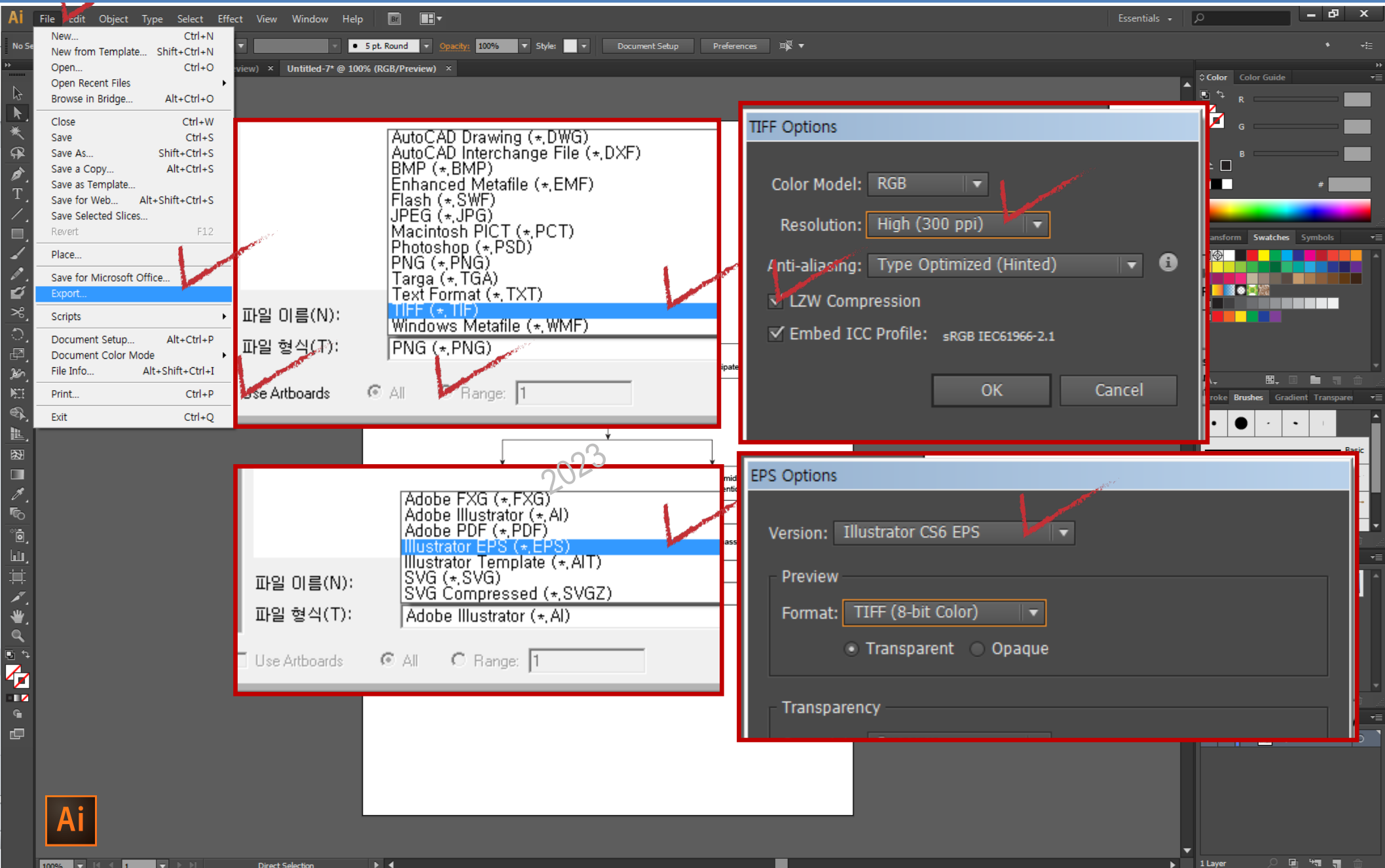
Transform Swatches Symbols

Stroke Brushes Gradient Transpare

Appearance Graphic Styles

Layers Artboards: Layer 1

# Tiff, eps 또는 PDF 변환



- File
  - Edit
  - Object
  - Type
  - Select
  - Effect
  - View
  - Window
  - Help
- New... Ctrl+N
  - New from Template... Shift+Ctrl+N
  - Open... Ctrl+O
  - Open Recent Files >
  - Browse in Bridge... Alt+Ctrl+O
  - Close Ctrl+W
  - Close All Alt+Ctrl+W
  - Save Ctrl+S
  - Save As... Shift+Ctrl+S
  - Save a Copy... Alt+Ctrl+S
  - Save Selected Slices...
  - Version History
  - Save as Template...
  - Revert F12
  - Search Adobe Stock...
  - Place... Shift+Ctrl+P
  - Invite to Edit...
  - Check For Updates (Beta)



Export for Screens

Artboards Assets

Fig1 Fig2 Fig3

1 Artboard 1 2 Artboard 1 c... 3 Artboard 1 c...

Select:

All  Range: 1-3

Include Bleed

Full Document

Export to:

Z:\₩###그래픽직업진행###₩###의과대학직업진

Open Location after Export

Create Sub-folders

Scale  Format

Export PDFs as:  Single File  Multiple Files

Formats:

Scale Suffix Format

None PDF

+ Add Scale

Clear Selection Prefix:

Selected: 3, Total Export: 3

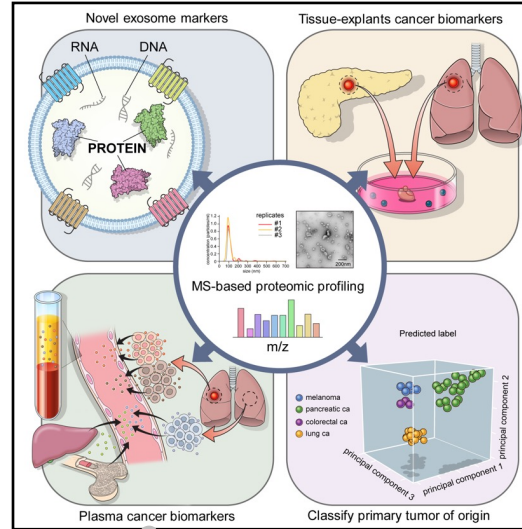
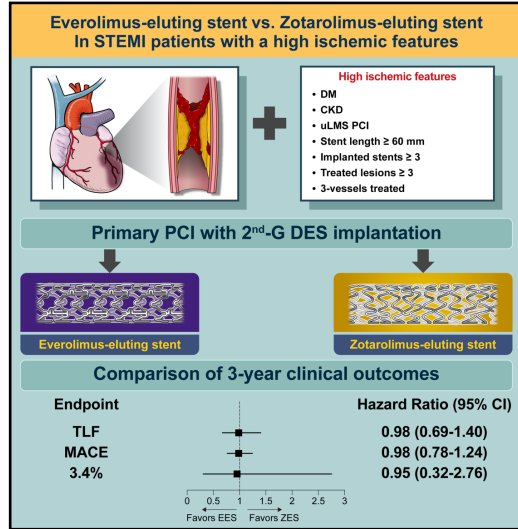
Export Artboard Cancel

- Export > Export for Screens... Alt+Ctrl+E
- Export Selection...
- Package... Alt+Shift+Ctrl+P
- Scripts >
- Document Setup... Alt+Ctrl+P
- Document Color Mode >
- File Info... Alt+Shift+Ctrl+I
- Print... Ctrl+P
- Exit Ctrl+Q

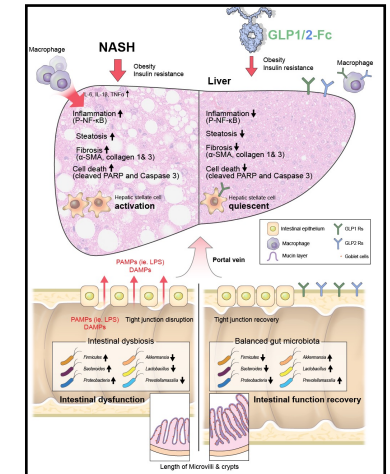
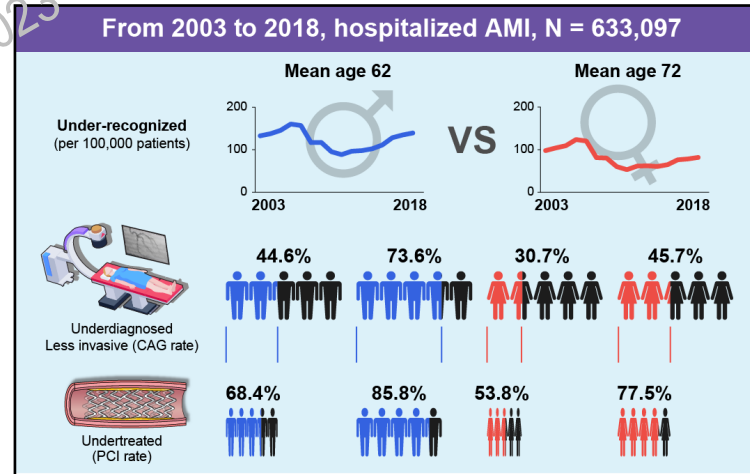
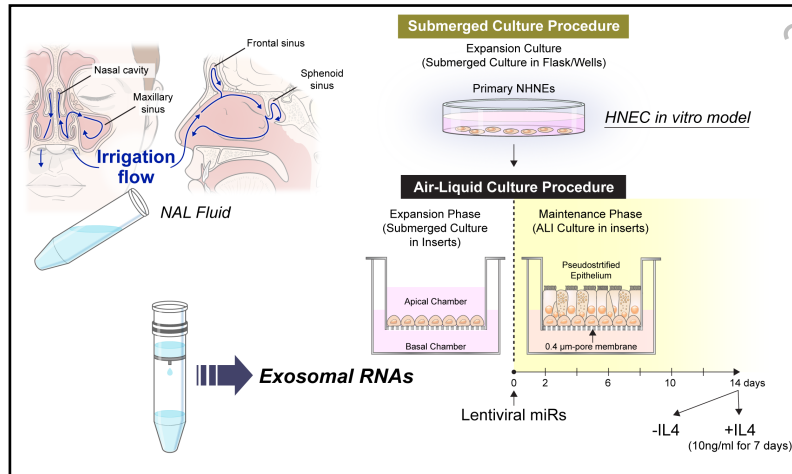
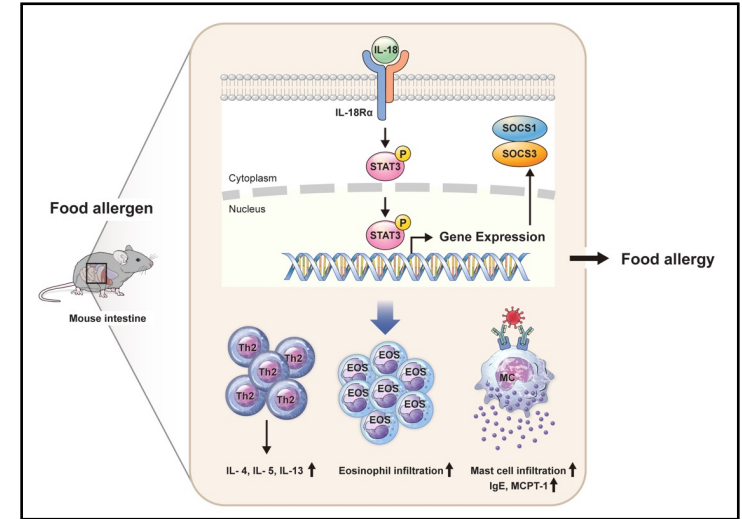
PDF



# SCI 논문 시각 이미지

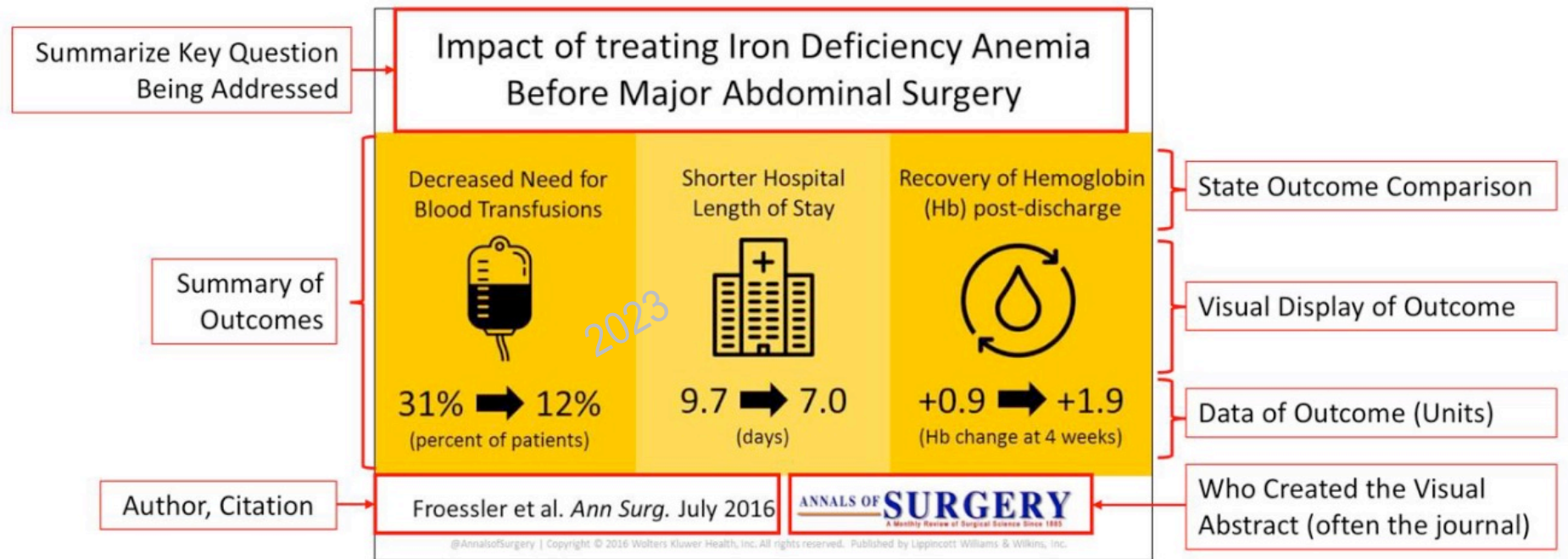


# Graphical Abstract



# Graphical Abstract

## COMPONENTS OF AN EFFECTIVE VISUAL ABSTRACT



Original Article: Rivaroxaban with or without Aspirin in Stable Cardiovascular Disease (COMPASS) [nej.md/2vrQpG6](http://nej.md/2vrQpG6)  
#VisualAbstract

### Rivaroxaban + Aspirin in Stable Cardiovascular Disease

RANDOMIZED, DOUBLE-BLIND, CONTROLLED TRIAL

N=9152	N=9126	N=9117
Rivaroxaban + aspirin	Aspirin alone	Rivaroxaban alone
379 patients 4.1%	496 patients 5.4%	448 patients 4.9%
Combination vs. Aspirin <b>Significant benefit</b>		Rivaroxaban vs. Aspirin No significant benefit

Primary composite outcome: cardiovascular death, stroke, or MI

THE NEW ENGLAND JOURNAL OF MEDICINE Eikelboom et al. 2017

9:05 AM - 5 Oct 2017

While use of #laparoscopy reduced total episode payments, the source of savings is in postacute care [ja.ma/2sFcbZJ](http://ja.ma/2sFcbZJ)  
#VisualAbstract

### Why Methods Matter: Comparing Medicare Payments for Laparoscopic vs. Open Colectomy

Limitation of Standard Risk Adjustment	Solution? Include an Instrumental Variable	Savings of Laparoscopic Colectomy
Inadequately Accounts for Unmeasured Patient Characteristics	Variable Correlated with Surgical Approach Chosen but Not the Outcome	Average Payment Difference Per Patient
\$5,547	\$3,679	

Sheetz et al. JAMA Surg June 2017. JAMA Surgery

3:00 PM - 17 Jun 2017

CJASN @CJASN · 2018년 9월 14일

Certain environmental #pollutants may contribute to poor kidney health [bit.ly/2p8yVhb](http://bit.ly/2p8yVhb) @SirDurhamite @DukeGHI @DukeKidney @dukeresearch

### What do we know about perfluoroalkyl and polyfluoroalkyl substances (PFAS)? Can they harm the kidneys?

Identified 74 studies

- 21 Epidemiologic studies
- 13 Pharmacokinetic studies
- 40 Toxicological studies

Human exposure via: Stain and grease repellent, Military and airport, Fire fighting foam, Soil, Inhalation, Food, Water

Literature review: PFAS exposure and kidney health (1990-2018)

Conclusions: A growing body of evidence points to PFAS as an environmental threat to kidney health, yet important gaps in our knowledge still exist.

John W. Basher, Heather Stapleton, Tomoko Sano, Ashly Wilmer, Xihu Zhou, and Li Ebony Bowler. *Perfluorinated Chemicals as Emerging Environmental Threats to Kidney Health: A Scoping Review*. CJASN doi:10.2215/CJN.041918

### Graphical abstract

Reducing surgical site infections in low-income and middle income countries (FALCON): a pragmatic, multicentre, stratified, randomised controlled trial  
NIHR Global Research Health Unit on Global Surgery

**1 The study**

- Participants: 5788 adult and paediatric patients undergoing clean-contaminated or contaminated or dirty abdominal surgery
- Intervention and comparator: 2x2 factorial trial of skin preparation solutions (2% alcoholic chlorhexidine or 10% aqueous povidone-iodine) and abdominal closing sutures (triclosan-coated or non-coated)
- Primary outcome: Surgical site infection 30 days after surgery
- Key limitation: The trial included a heterogeneous mix of operation types, these represented real world surgical case mix

**2 Findings**

There was no evidence of a difference in the risk of surgical site infection with alcoholic chlorhexidine compared to povidone-iodine, or with triclosan-coated sutures compared to non-coated sutures

Fascial closures

Non-coated	Number assigned: 2644	Reference
Triclosan-coated sutures	2640	0.94*

95%CI 0.85 to 1.04; p=0.217

Skin preparations

Povidone-iodine	2635	Reference
Alcoholic chlorhexidine	2649	0.94*

95%CI 0.85 to 1.04; p=0.216

**3 Research in context**

Before this study	Added value	Implications
WHO recommended alcoholic chlorhexidine and triclosan sutures based on low to moderate quality of evidence.	FALCON is a high quality trial showing no superiority of either alcoholic chlorhexidine nor triclosan sutures for surgical patients in low-income and middle-income countries.	The guidance on alcoholic chlorhexidine and triclosan sutures for low-income and middle-income countries should be reviewed.

THE LANCET THE best science for better lives

## Slide Title Goes Here

Please use White Text or Gold Text, Centered

### Gastric cancer Obese D2

Open Lap Robot

### Short-term

- OP time: Open = Lap = Robot
- Bleeding: Open > Lap = Robot
- Lymph nodes: Robot > Open > Lap
- Complication: Open = Lap = Robot

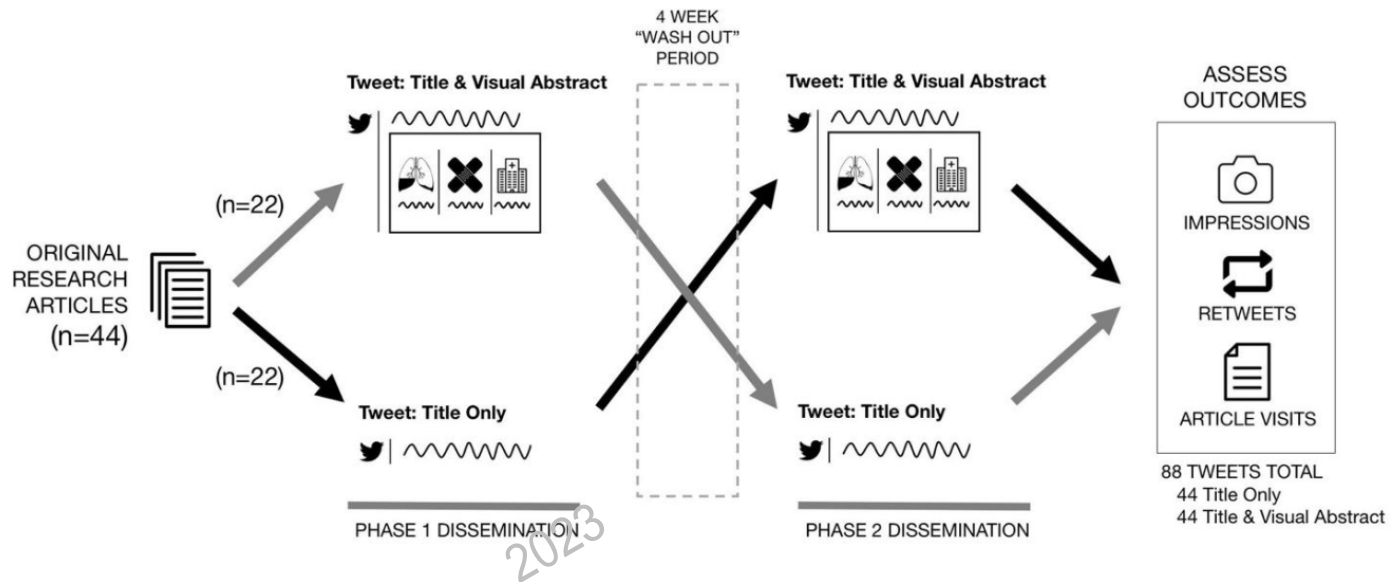
### Long-term

- Complication: Open = Lap = Robot
- Survival: Robot > Lap > Open

Author et al. Ann Surg Oncol. Visual Abstract @Member for @AnnSurgOncol

ANNALS OF SURGICAL ONCOLOGY

**Figure 1. Study Design.** Prospective, Case-Control Crossover Study to Evaluate the Impact of Visual Abstracts on Twitter



Study conducted between July 2016 and December 2016 using articles published the same year. All articles in this study were tweeted from the Annals of Surgery account (Twitter: @AnnalsOfSurgery). Outcomes data were aggregated from Twitter Analytics and compared using matched-pair t-test analysis.

**TABLE 1. Case-control Crossover Results: Title Alone Versus Title with Visual Abstract**

Outcomes (Mean)	Title Alone (n = 44)	Title with Visual Abstract (n = 44)	Increase of Outcome with Visual Abstract	P*
Impressions	3073.3	23611.2	7.7 fold	<0.001
Retweets	11.0	92.1	8.4 fold	<0.001
Article visits	65.6	175.4	2.7 fold	<0.001

\*Comparison of means using matched-pair t test analysis comparing 88 total tweets from 44 articles in the case-control crossover study.

Definitions: Impressions (number of times tweet is seen), Retweets (number of times a tweet is shared), article visits (number of times link to article was clicked from tweet).

# New Immunometabolic Strategy Based on Cell Type-Specific Metabolic Reprogramming in the Tumor Immune Microenvironment

by Ji-Yong Sung<sup>1,\*</sup> and Jae-Ho Cheong<sup>2,3,4,\*</sup>

<sup>1</sup> Department of Laboratory Medicine, Yonsei University College of Medicine, Seoul 03722, Korea

<sup>2</sup> Department of Surgery, Yonsei University College of Medicine, Seoul 03722, Korea

<sup>3</sup> Yonsei Biomedical Research Institute, Yonsei University College of Medicine, Seoul 03722, Korea

<sup>4</sup> Department of Biochemistry & Molecular Biology, Yonsei University College of Medicine, Seoul 03722, Korea

\* Authors to whom correspondence should be addressed.

Academic Editor: Piotr Dziegiel

Cells 2022, 11(5), 768; <https://doi.org/10.3390/cells11050768>

Received: 7 January 2022 / Revised: 17 February 2022 / Accepted: 21 February 2022 / Published: 22 February 2022

(This article belongs to the Special Issue *New Aspects of Targeting Cancer Metabolism in Therapeutic Approach*)

[View Full-Text](#)

[Download PDF](#)

[Browse Figures](#)

[Citation Export](#)

## Abstract

Immunometabolism is an emerging discipline in cancer immunotherapy. Tumor tissues are heterogeneous and influenced by metabolic reprogramming of the tumor immune microenvironment (TIME). In the TIME, multiple cell types interact, and the tumor and immune cells compete for limited nutrients, resulting in altered anticancer immunity. Therefore, metabolic reprogramming of individual cell types may influence the outcomes of immunotherapy. Understanding the metabolic competition for access to limited nutrients between tumor cells and immune cells could reveal the breadth and complexity of the TIME and aid in developing novel therapeutic approaches for cancer. In this review, we highlight that, when cells compete for nutrients, the prevailing cell type gains certain advantages over other cell types; for instance, if tumor cells prevail against immune cells for nutrients, the former gains immune resistance. Thus, a strategy is needed to selectively suppress such resistant tumor cells. Although challenging, the concept of cell type-specific metabolic pathway inhibition is a potent new strategy in anticancer immunotherapy. [View Full-Text](#)

**Keywords:** immunometabolism; tumor microenvironment; metabolic reprogramming; immune checkpoint inhibitor

[Show Figures](#)



Graphical abstract



<https://biorender.com/>



<https://www.freepik.com/>

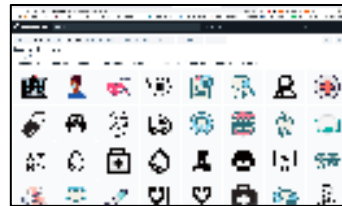


[www.flaticon.com](http://www.flaticon.com)



2023

[www.iconfinder.com](http://www.iconfinder.com)



[www.thenounproject.com](http://www.thenounproject.com)



# Graphical Abstract 작업과정 요약

1단계



콘티설정

- 타겟 저널 가이드라인 꼭 확인 형식이 있다면 참조
- 옵션인 경우 좋은 예시를 참고하여 간단한 프로세스를 사용하여 나만의 디자인 시작

2단계



밑그림작업

- 종이에 그림을 그리거나 전자노트 활용
- Adobe Illustrator, Affinity Designer 또는 Power Point 와 같은 디자인 툴 활용(무료 라이브러리 사이트 활용)

3단계



수정작업

- 연구 주요내용과 이미지 통일성
- 디자인 서식과 색상 조정

4단계



등재 후 공유

- 프리젠테이션
- 과학 웹사이트 및 소셜 미디어를 통해 과학자 및 대중과 공유

감사합니다

2023

[www.studiomid.com](http://www.studiomid.com)  
[studiomid@outlook.com](mailto:studiomid@outlook.com)  
[artanato@yuhs.ac](mailto:artanato@yuhs.ac)  
장동수