



How to make medical illustrations easy and effective

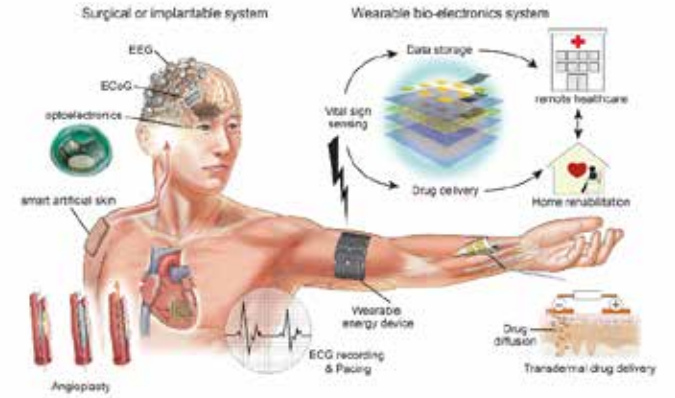
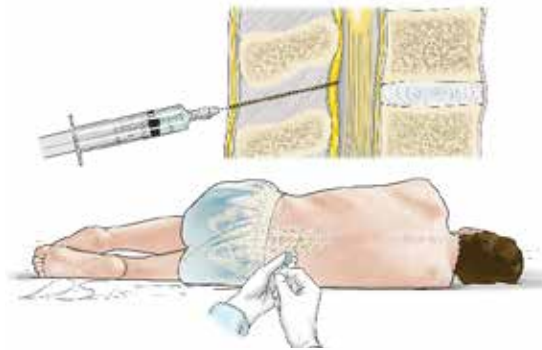
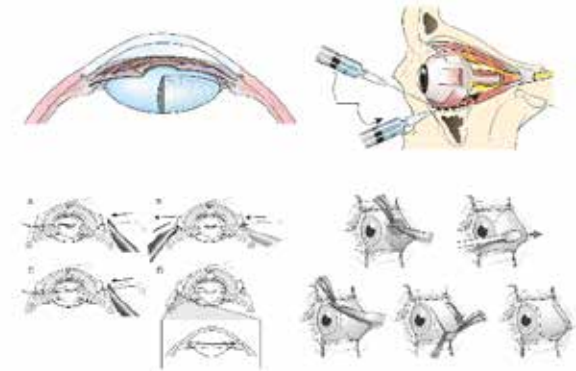
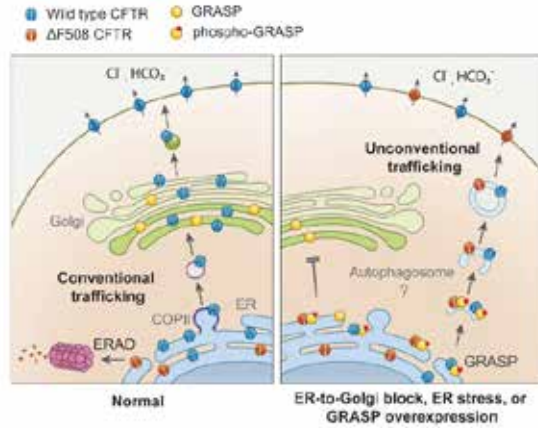
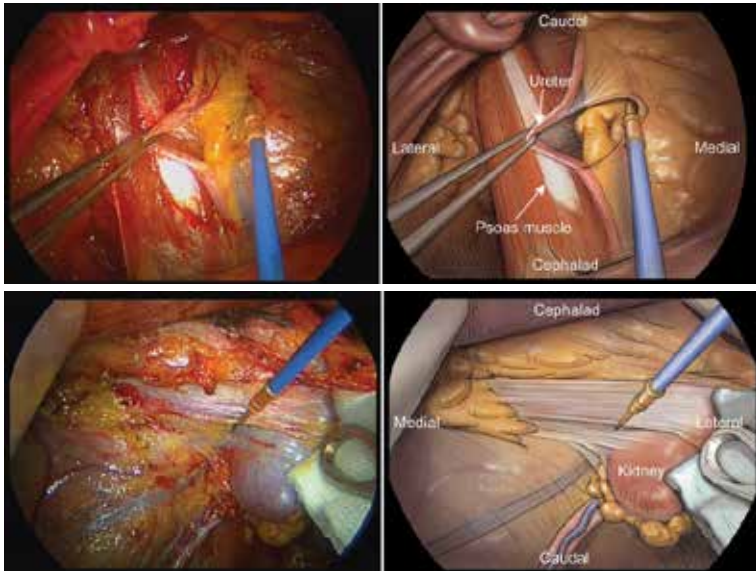
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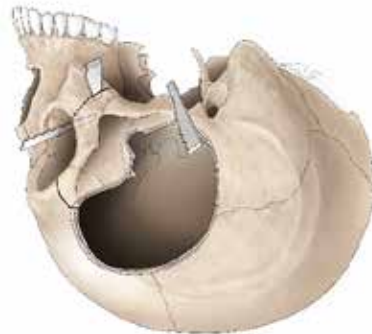
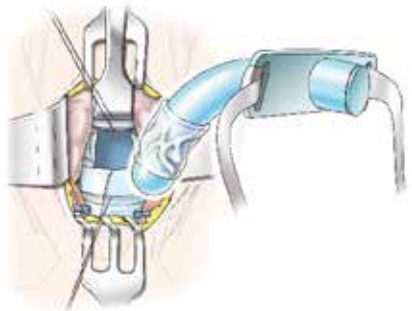
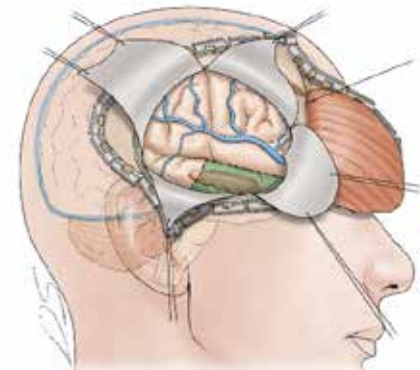
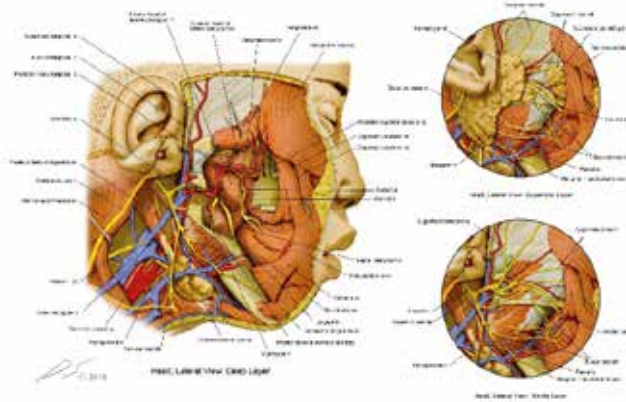
강사 장동수

연세대학교 의과대학 연구부 그래픽 지원실

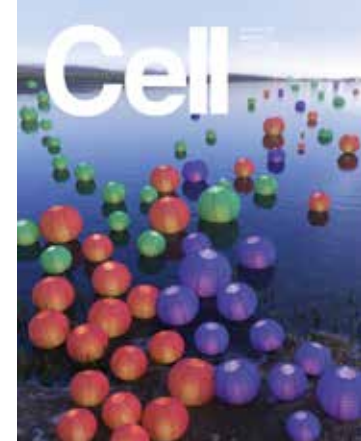
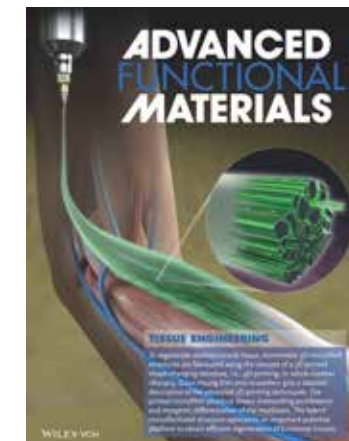
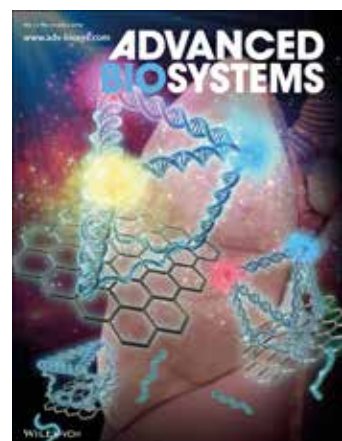
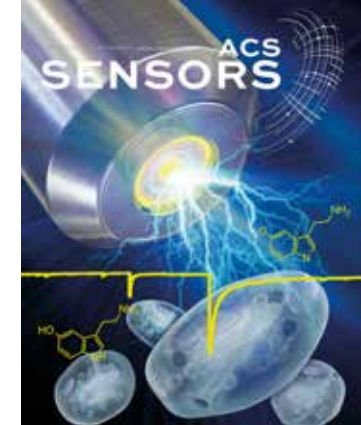
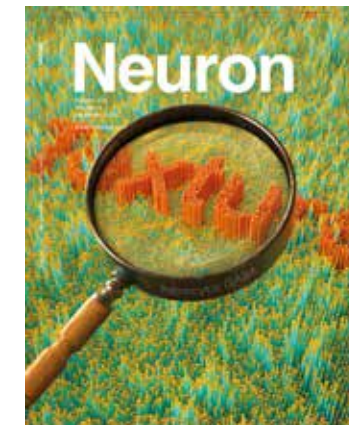
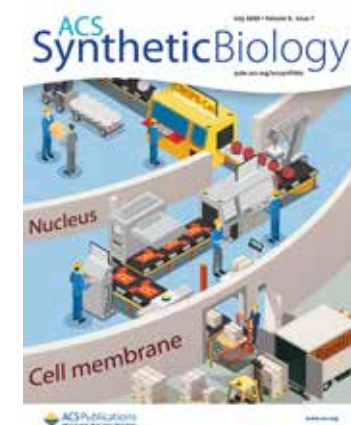
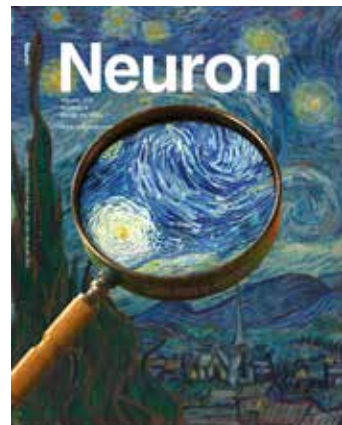
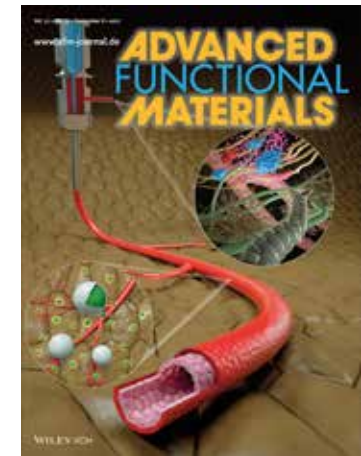
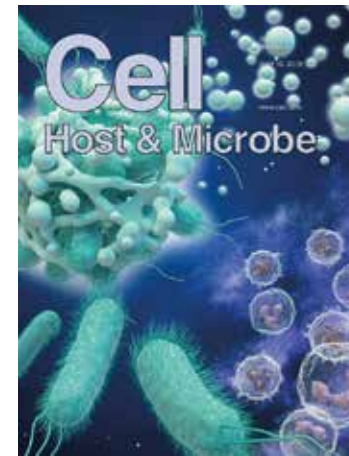
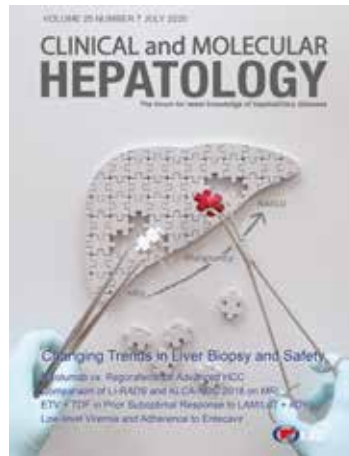
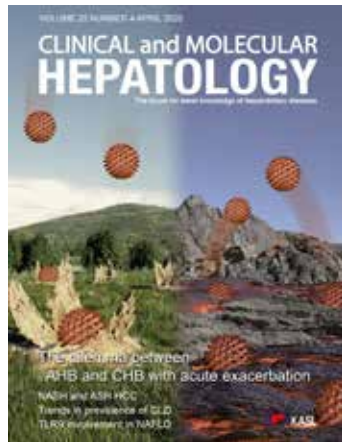




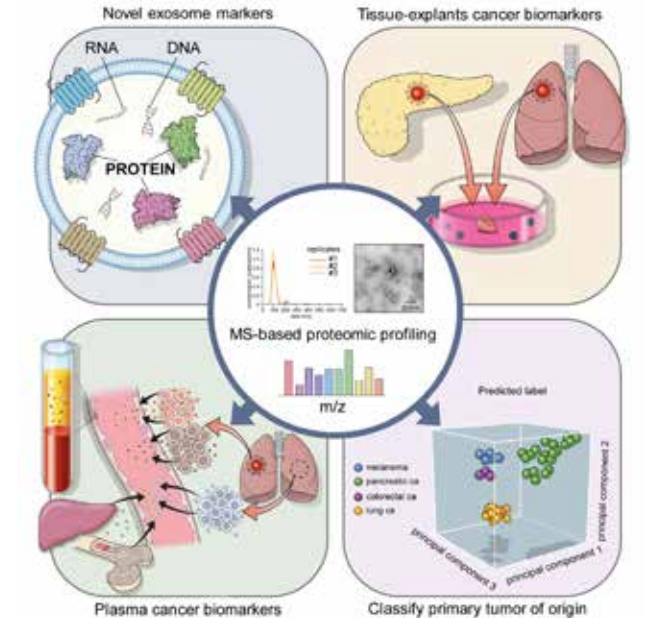
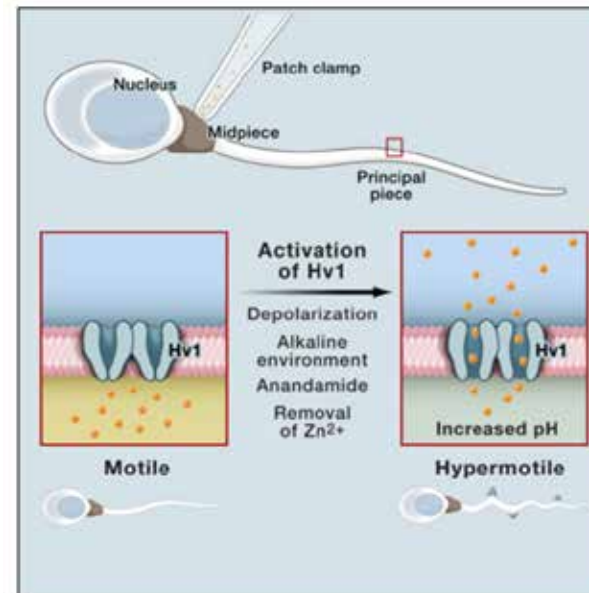
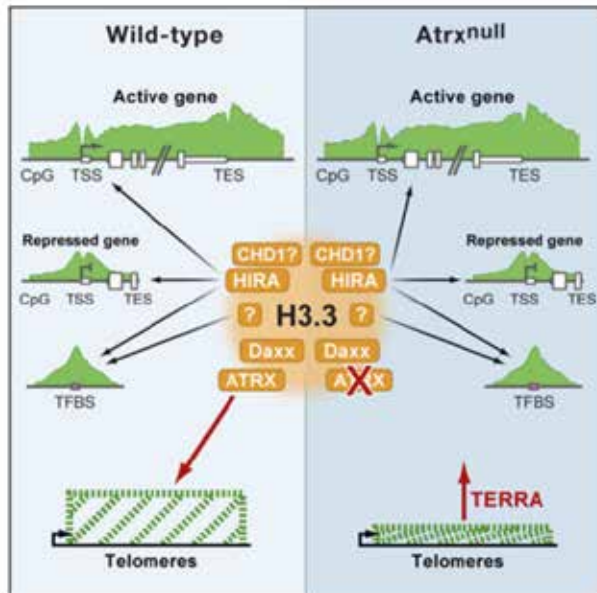
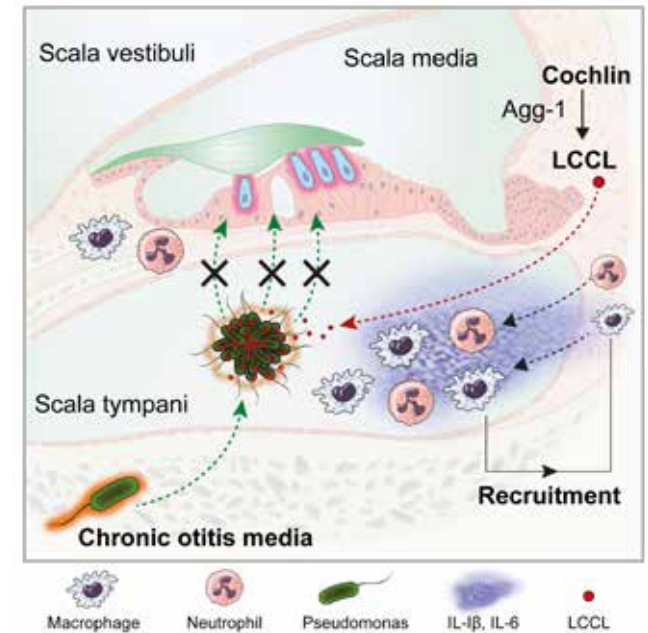
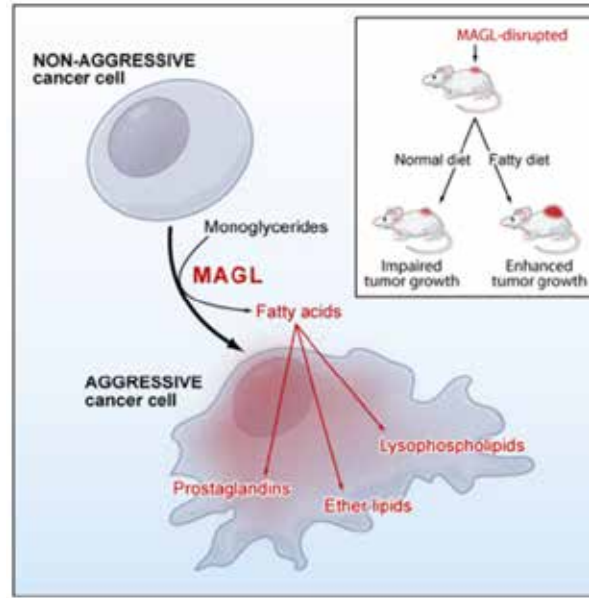
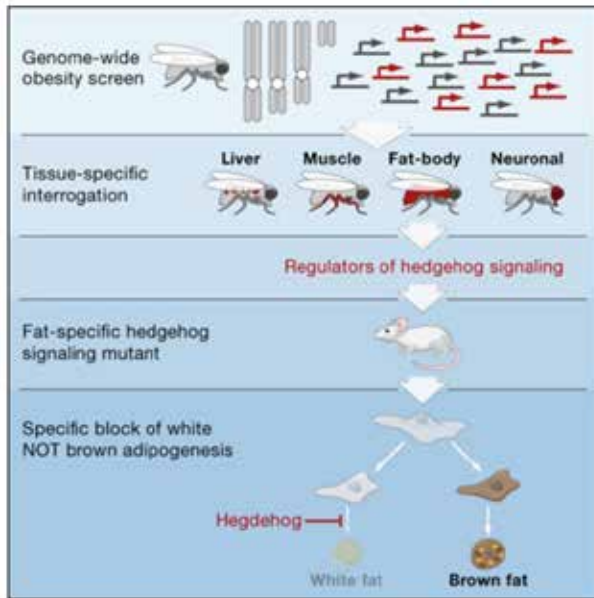
Infratemporal region, Superficial to Deep Layers



Cover Art




Graphical Abstract



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**Gastric cancer
Obese D2**



Short-term

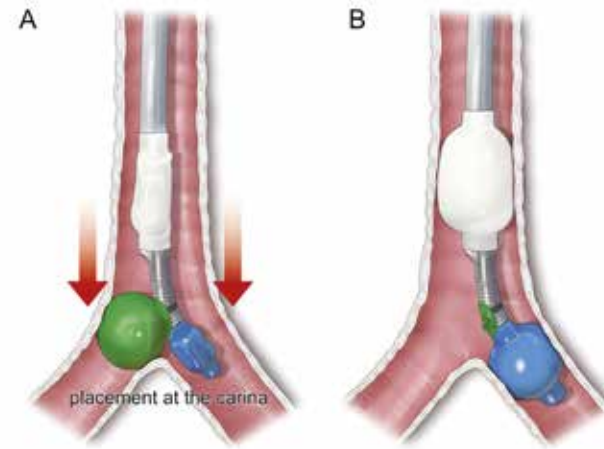
- OP time: Open = Lap = Robot
- Bleeding: Open > Lap = Robot
- Lymph nodes: Robot > Open > Lap
- Complication: Open = Lap = Robot

Long-term

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

Author et al. Ann Surg Oncol.
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ANNALS OF SURGICAL ONCOLOGY



Graphical Abstract

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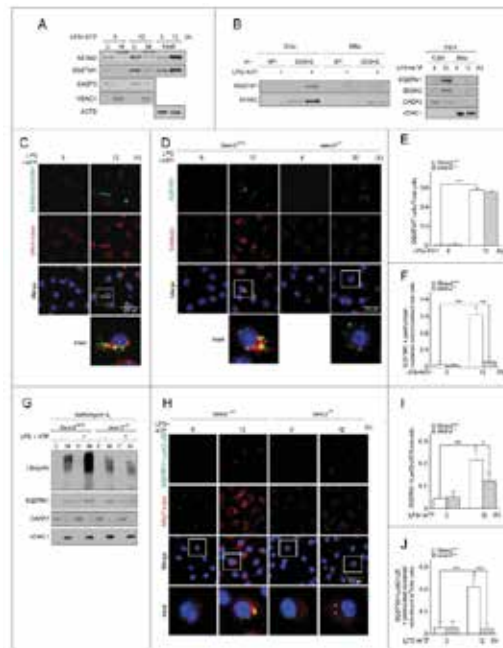


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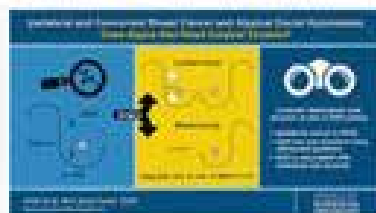
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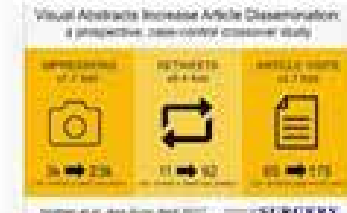
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UCLA Jonsson Comprehensive Cancer Center: Latest Ne...
[ucla.edu](https://www.ucla.edu)

Assessing the Burden of Nodal Disease in Breast Cancer Patients With Clinically Positive Nodes: Hope for More Limited Axillary Surgery

Retrospective review of patients with **clinically positive lymph nodes** treated with **axillary lymph node dissection (ALND)**

- Almost **2/3** had palpable adenopathy
- **41.4%** had **pN1** disease
- Palpable adenopathy did **NOT** predict for higher nodal stage

Omission of ALND may be appropriate for over **40%** of patients with cN1 disease

Angarita S et al. *Ann Surg Oncol*. 2020.
 Visual Abstract by @MaggieDNome for @AnnSurgOncol

ANNALS OF SURGICAL ONCOLOGY

Protecting Surgical Teams in the COVID-19 Outbreak: Narrative Review and Clinical Considerations

<p>"Surgical teams are at uniquely high risk for viral exposure"</p>	<p>Structured communication before key events</p>	<p>Assume the entire OR is contaminated</p>
<p>Choose PPE effective against aerosols</p>	<p>Adapt technique to reduce exposure</p>	<p>"Buddy system" for donning and doffing</p>

Brat GA et al, 2020
 Visual Abstract by @krchhabra #COVID19surgery

ANNALS OF SURGERY

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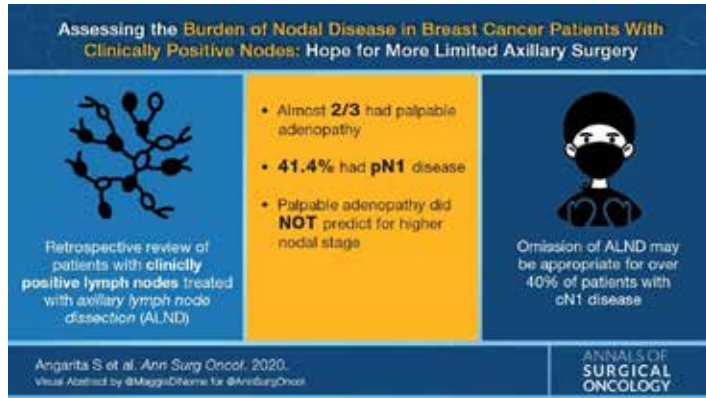
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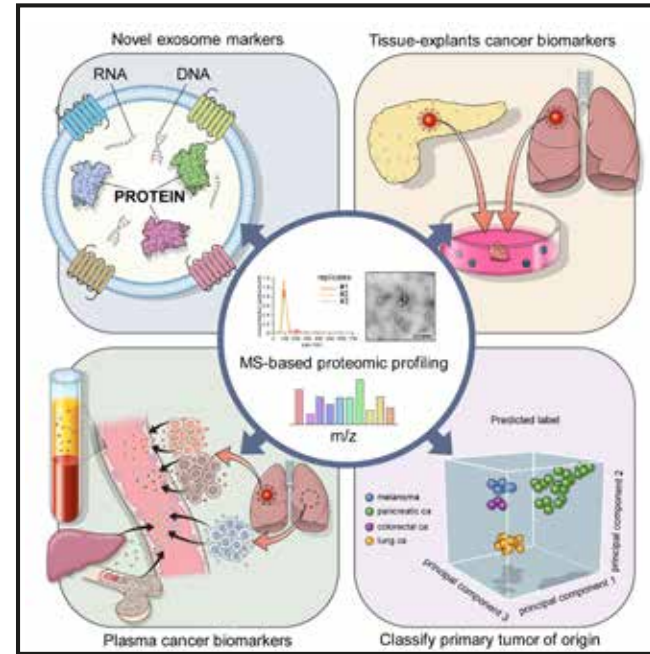
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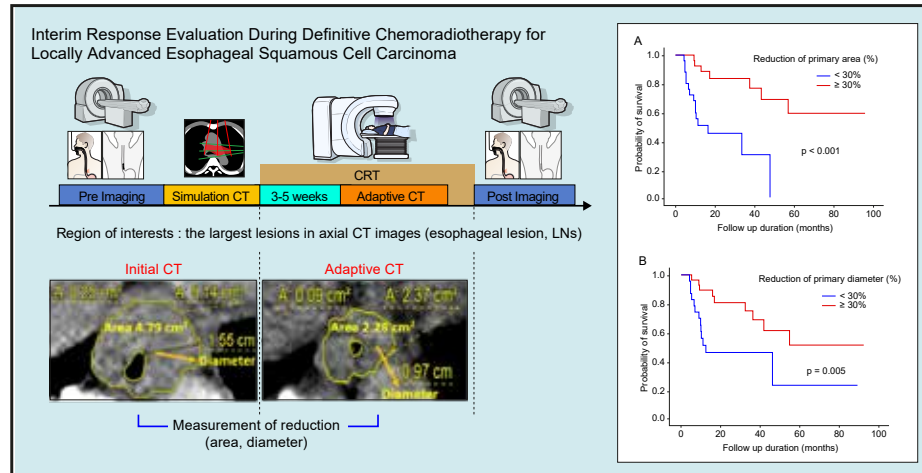
7.5 inch

5.5 inch

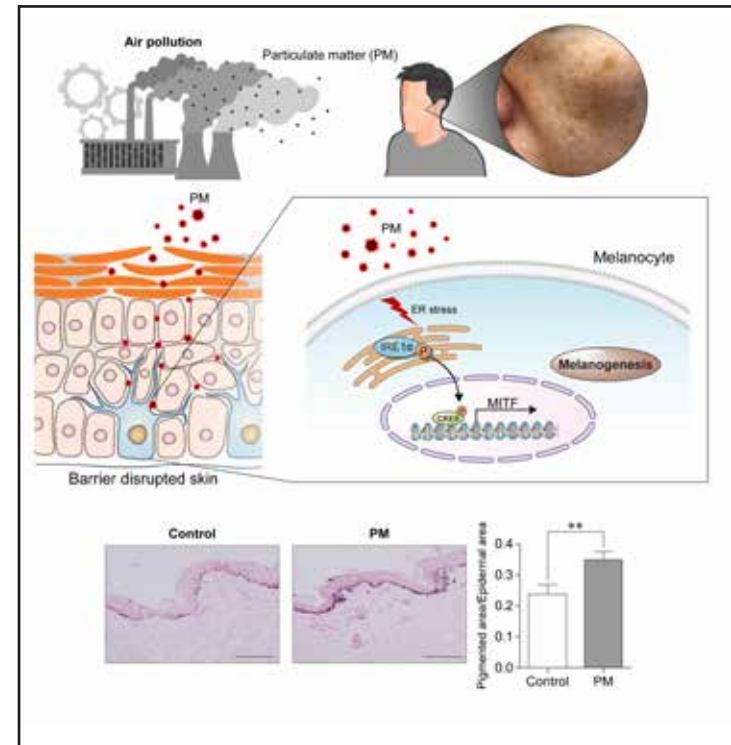
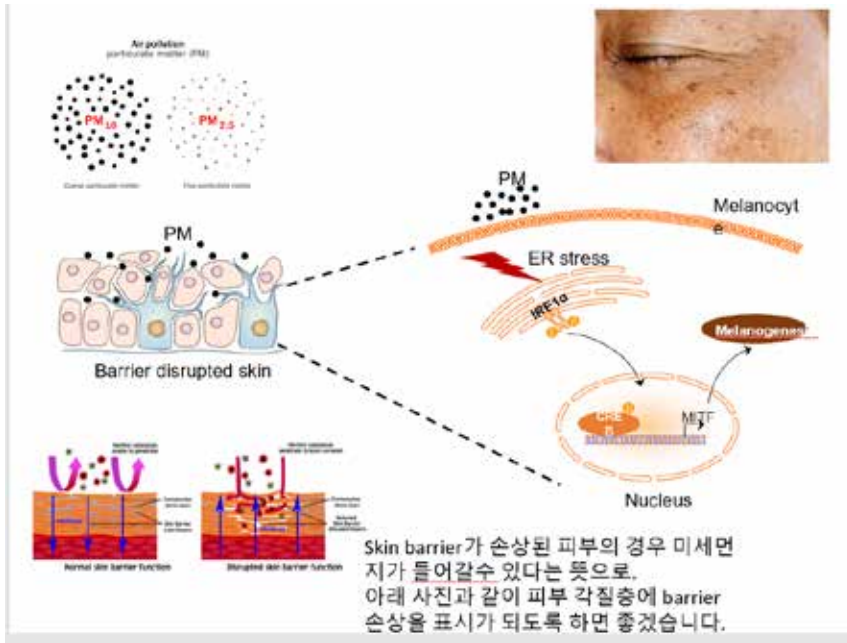


5.5 inch

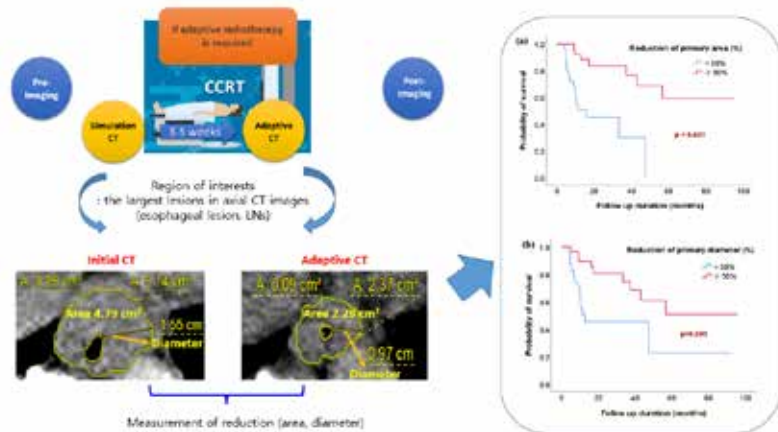
7.7778 inch (1100 pixels)



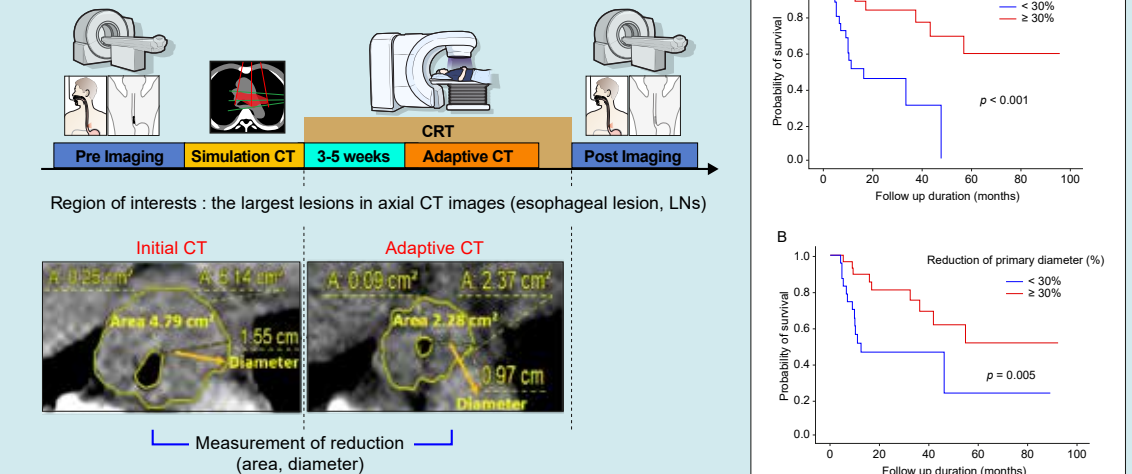
15.2778 inch (560 pixels)



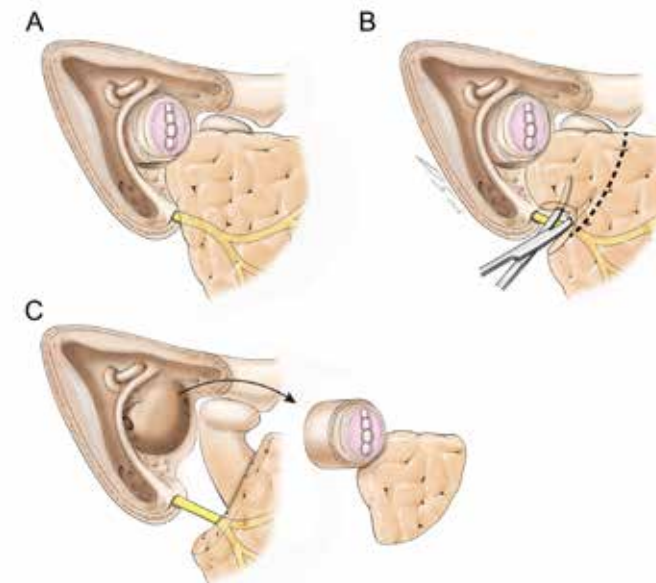
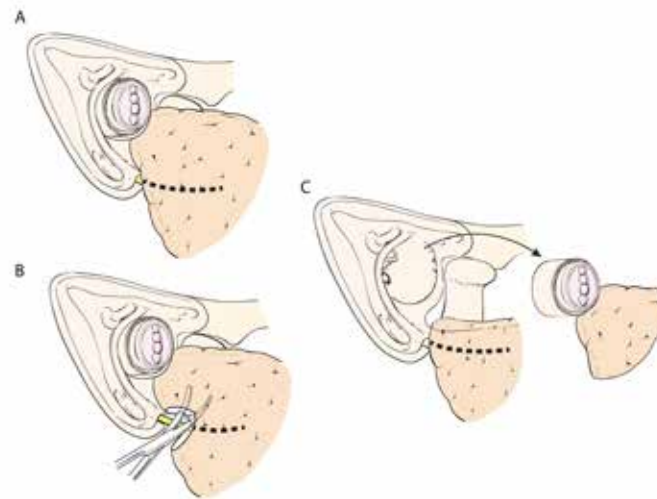
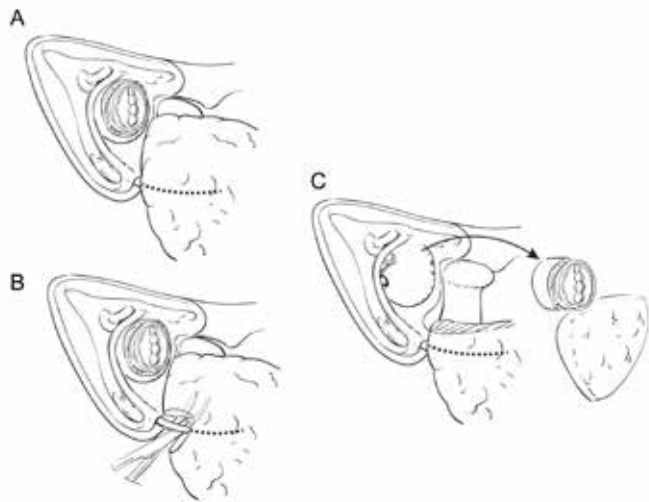
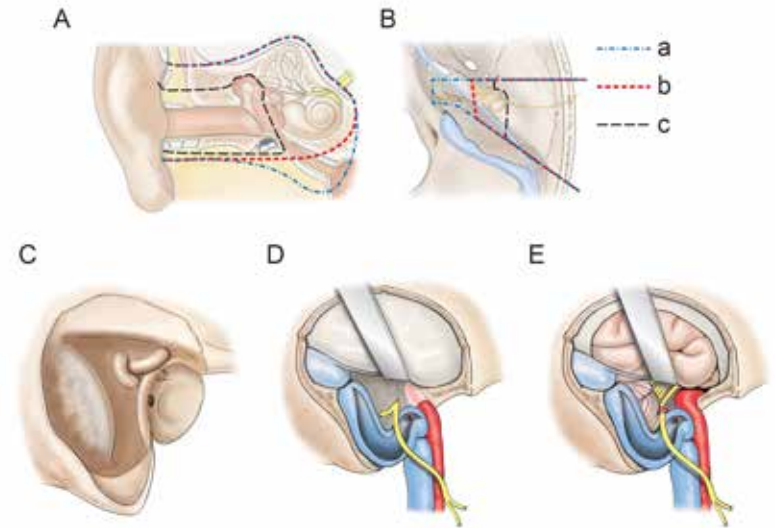
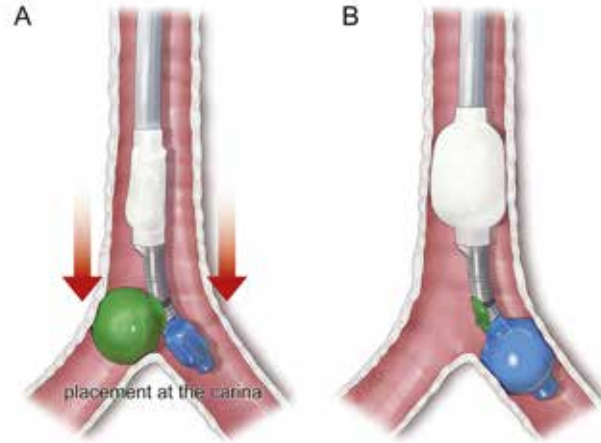
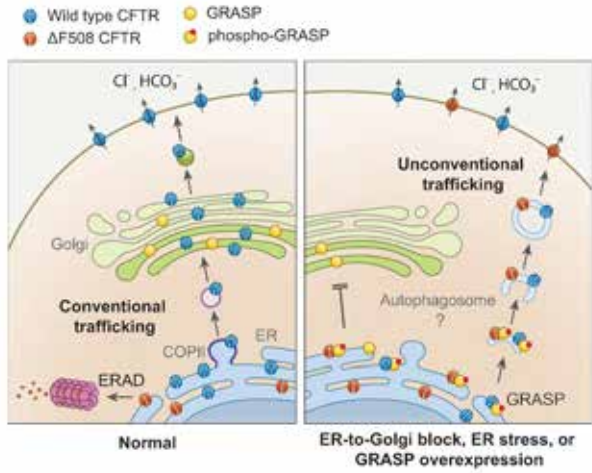
Interim Response Evaluation During Definitive Chemoradiotherapy for Locally Advanced Esophageal Squamous Cell Carcinoma



Interim Response Evaluation During Definitive Chemoradiotherapy for Locally Advanced Esophageal Squamous Cell Carcinoma



Medical Illustration



Graphical Abstract

Medical Illustration

추천 사이트



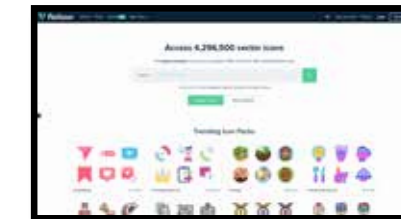
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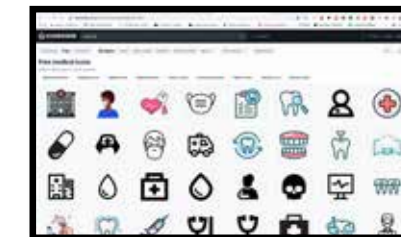
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New Immunometabolic Strategy Based on Cell Type-Specific Metabolic Reprogramming in the Tumor Immune Microenvironment

by Ji-Yong Sung^{1,*} and Jae-Ho Cheong^{2,3,4,*}

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

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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

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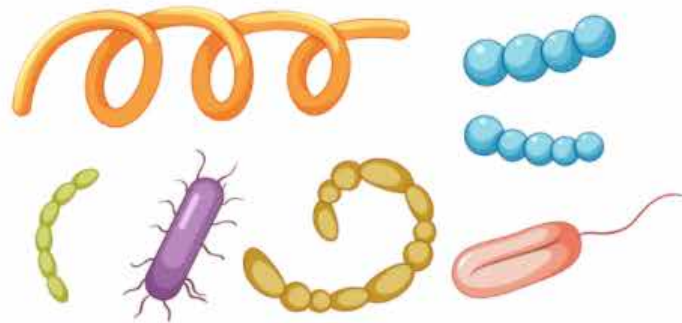
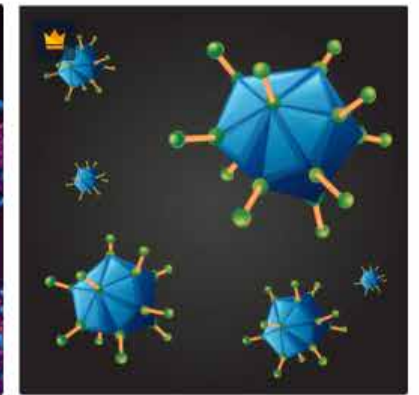
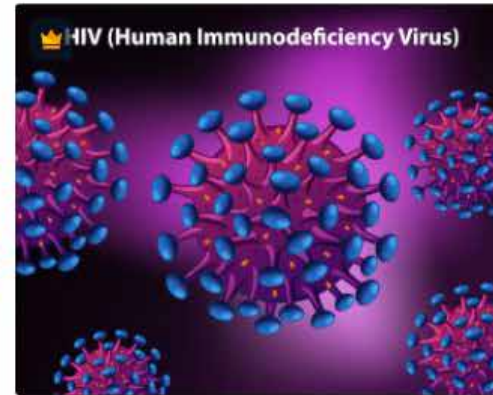
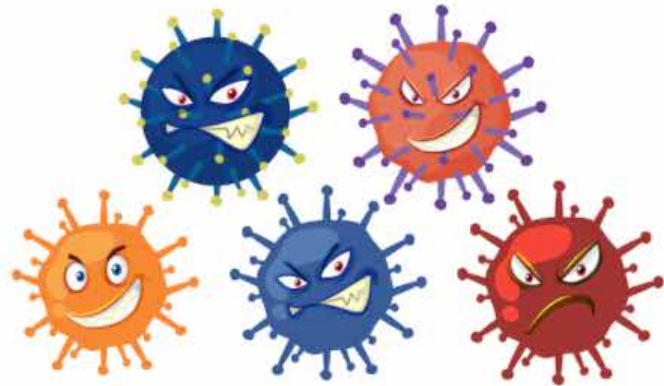
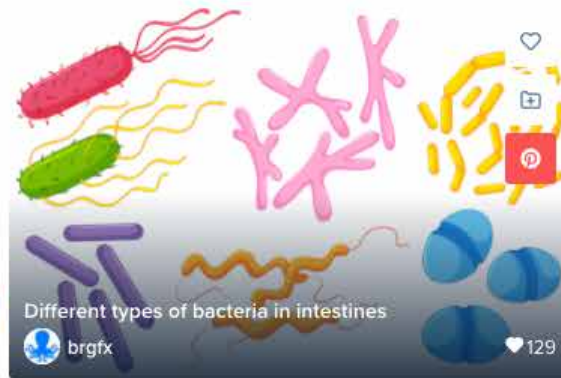


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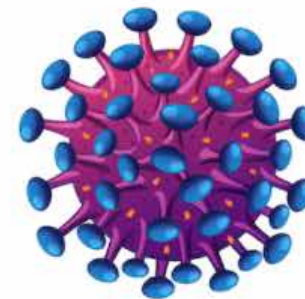


Bacteria with facial expressions Free Vector

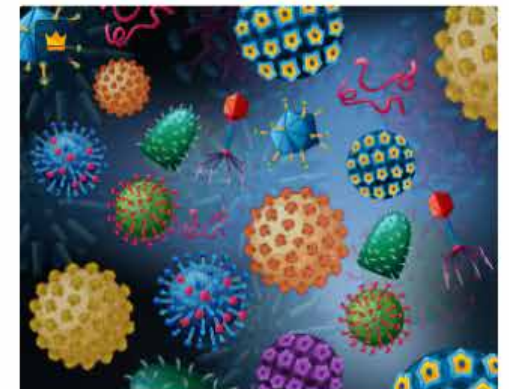
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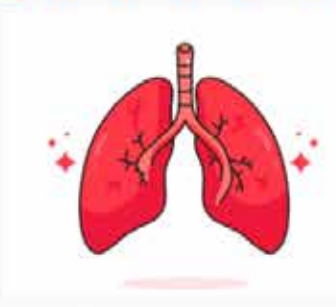
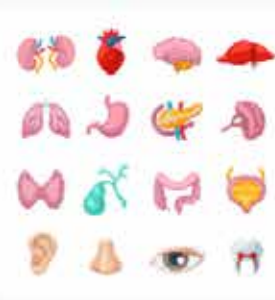


bacteria



HIV

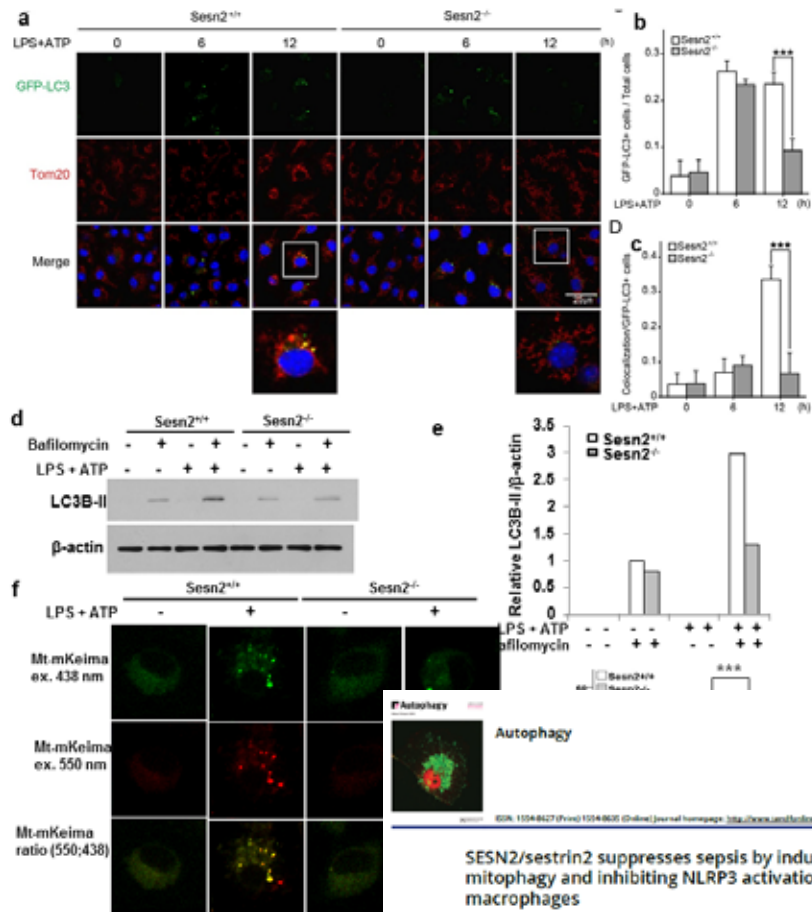




Combination Figures

before

after

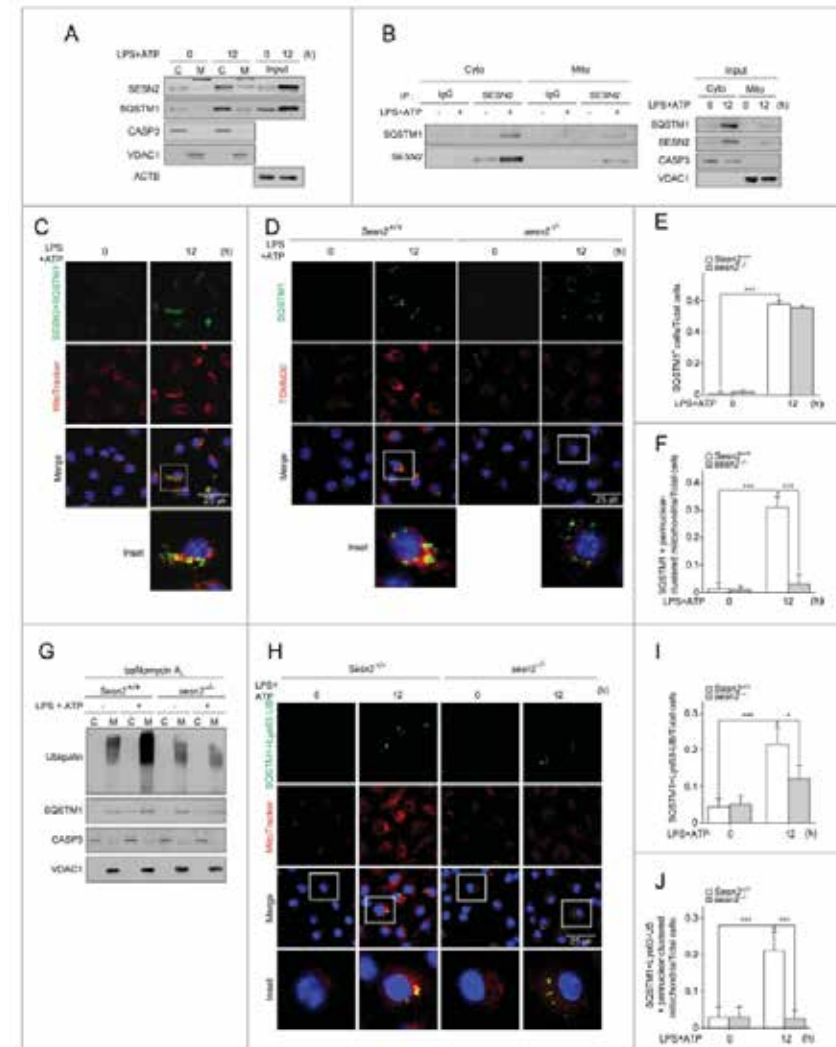


SESN2/sestrin2 suppresses sepsis by inducing mitophagy and inhibiting NLRP3 activation in macrophages

Min-Ji Kim, Soo Han Bae, Jae Chan Ryu, Younghee Kwon, Ji Hwan Oh, Jeongho Kwon, Jong-Seok Moon, Kyubo Kim, Atsushi Miyawaki, Min Goo Lee, Jaekyoon Shin, Young Sam Kim, Chang-Hoon Kim, Seok-Wi Ryter, Augustine M. K. Choi, Sue Goo Rhee, Ji-Hwan Ryu & Joo-Heon Yoon

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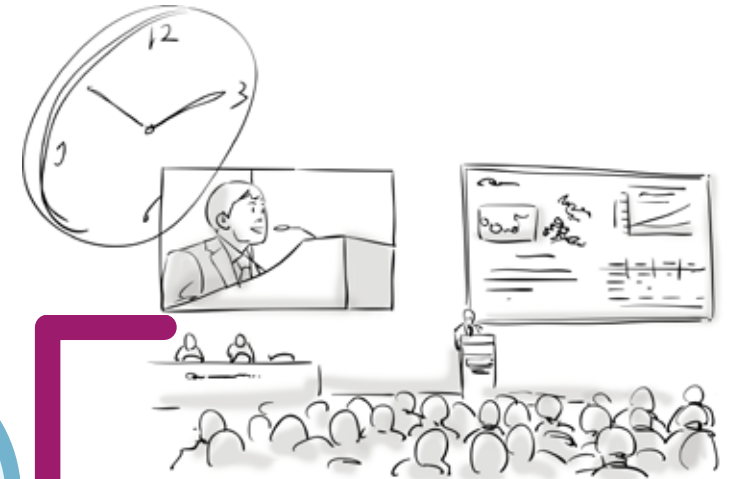
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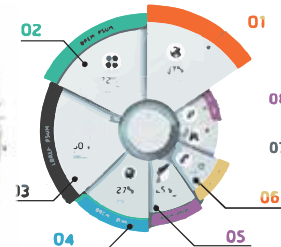
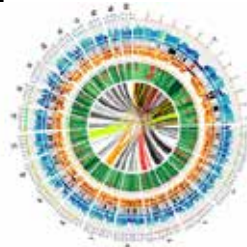
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 - e러닝
 - 인쇄

모두 정렬 인기순

85개의 검색 결과

Creative Cloud 모든 앱

Photoshop, Illustrator, Premiere Pro, Acrobat Pro, Creative Cloud Express 등 20개 이상의 크리에이티브 앱을 이용하실 수 있습니다. 포함된 제품 및 서비스 보기 [자세히 보기](#)

[구매하기](#) [무료 체험판](#)

Acrobat Pro

멀티미디어 콘텐츠를 위한 완벽한 PDF 솔루션

[자세히 보기](#)

[구매하기](#) [무료 체험판](#)

Photoshop

데스크탑 및 iPad에서 멋진 이미지, 그래픽, 아트 제작, 편집 및 합성

[자세히 보기](#)

[구매하기](#) [무료 체험판](#)

Premiere Pro

업계 표준의 전문적인 비디오 및 영화 편집

[자세히 보기](#)

[구매하기](#) [무료 체험판](#)

Illustrator

데스크탑 및 iPad에서 멋진 벡터 아트와 일러스트레이션 제작

[자세히 보기](#)

[구매하기](#) [무료 체험판](#)

Adobe Stock

수백만 개의 고품질 이미지, 그래픽, 비디오 등에서 선택

[자세히 보기](#)

[무료 체험판](#)

InDesign

인쇄 및 디지털을 위한 세련된 레이아웃 디자인 및 출판

[자세히 보기](#)

[구매하기](#) [무료 체험판](#)

After Effects

영화와 같은 시각 효과 및 멋진 그래픽 제작

[자세히 보기](#)

[구매하기](#) [무료 체험판](#)

Lightroom (1TB)

어디에서나 사진 편집, 관리, 저장 및 공유

[자세히 보기](#)

[구매하기](#) [무료 체험판](#)

Adobe XD

웹, 모바일, 음성 등의 사용자 경험 디자인, 프로토타이핑, 공유

[자세히 보기](#)

[구매하기](#) [무료 체험판](#)

Animate

새로운 애니메이션 시대의 도래. 모든 플랫폼, 디바이스, 스타일로

[자세히 보기](#)

[구매하기](#) [무료 체험판](#)

Dreamweaver

모든 웹 응용 프로그램 사이트 디자인 및 개발

[자세히 보기](#)

[구매하기](#) [무료 체험판](#)

Figure types

Line Art

Grayscale

Halftones

Combination Figures

Format

Tiff or EPS

Minimum Resolution: 300 dpi

Tiff : Tagged Image File Format

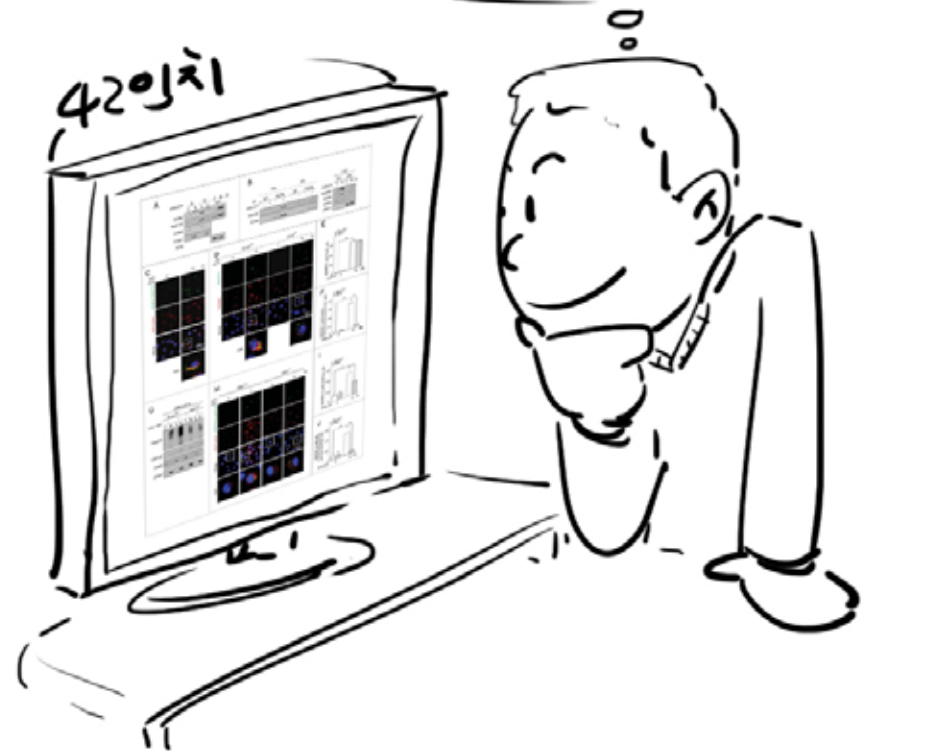
EPS: Encapsulated PostScript

Print
Screen
SysRq

정리를 어떻게 하지??

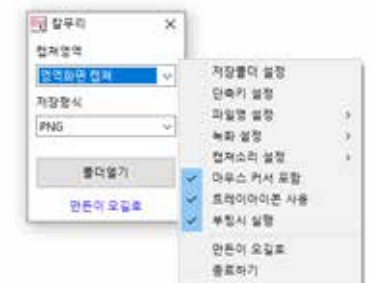


해상도는 문제 없겠어..!



화면캡처 프로그램
<https://kalmuri.kilho.net/>

칼무리





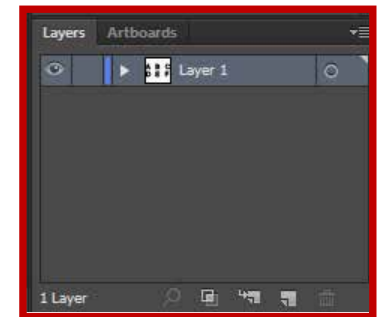
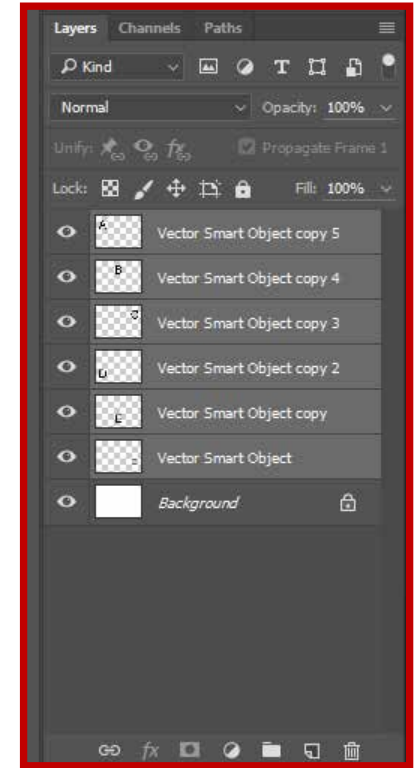
PPT → PSD  → Tiff

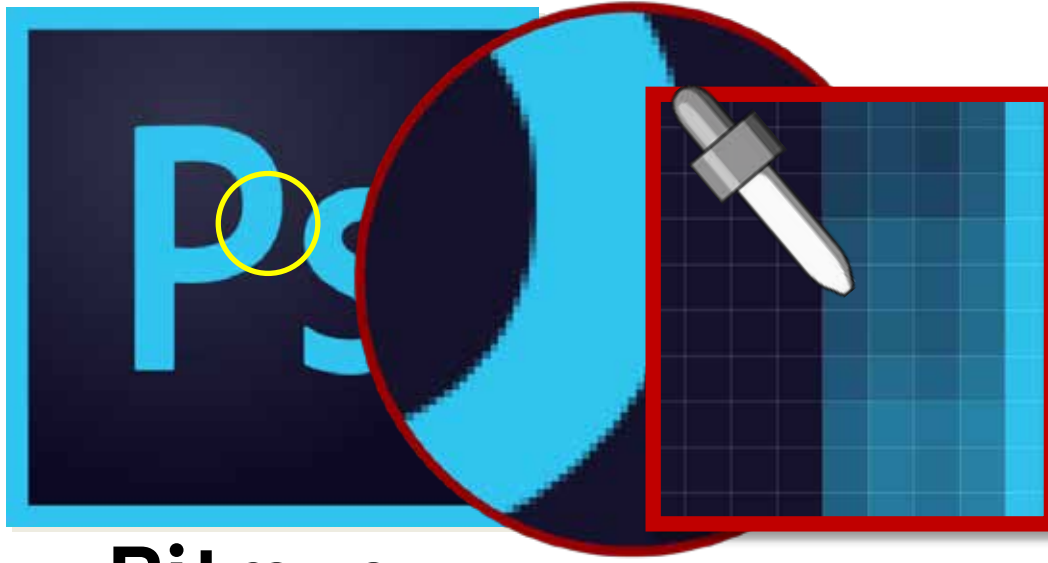
PPT → PSD →  → Tiff
알PDF



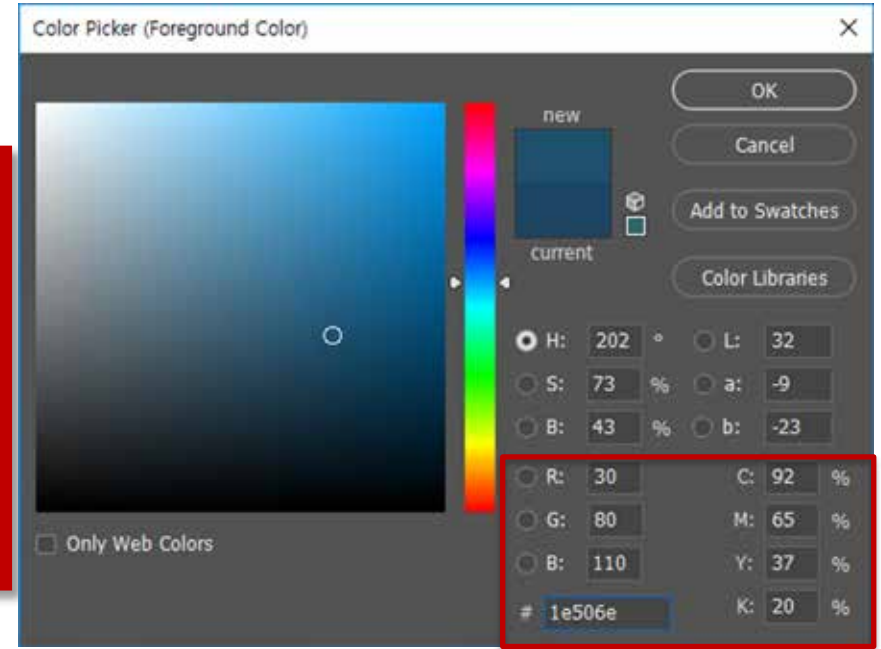
PPT → Ai  → Tiff & eps
Eps, wmf, emf, SVG, 기타

Photoshop, Illustrator 차이

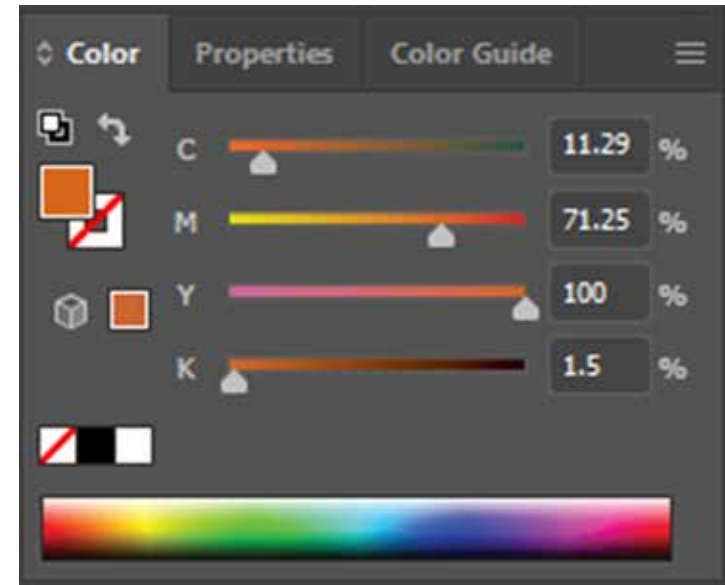


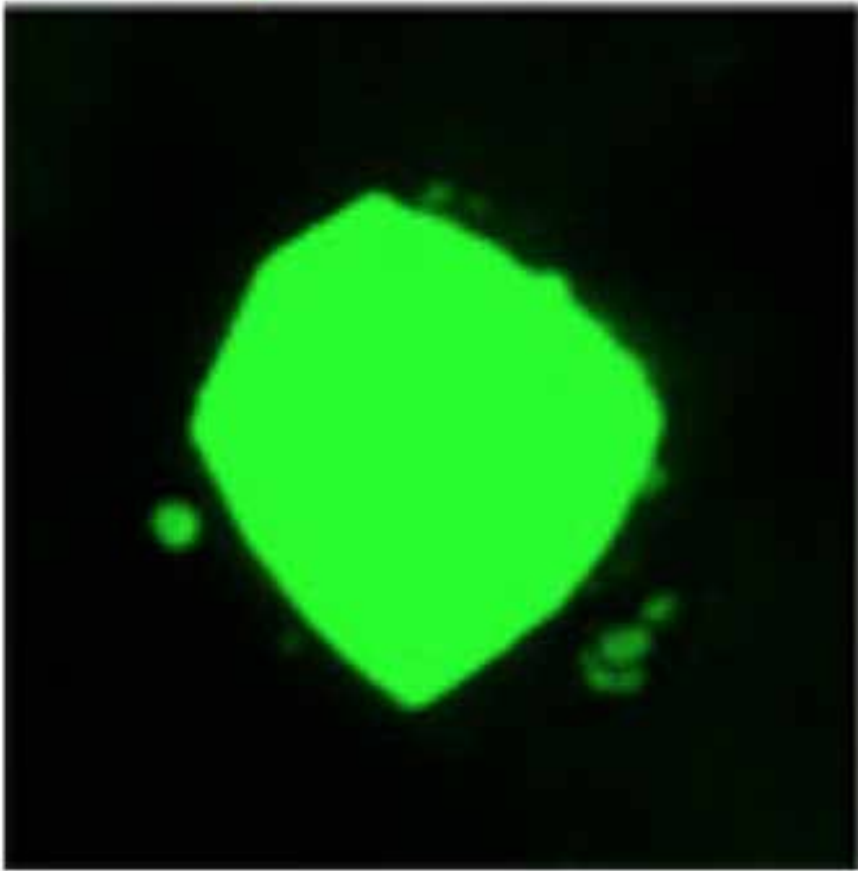


Bitmap

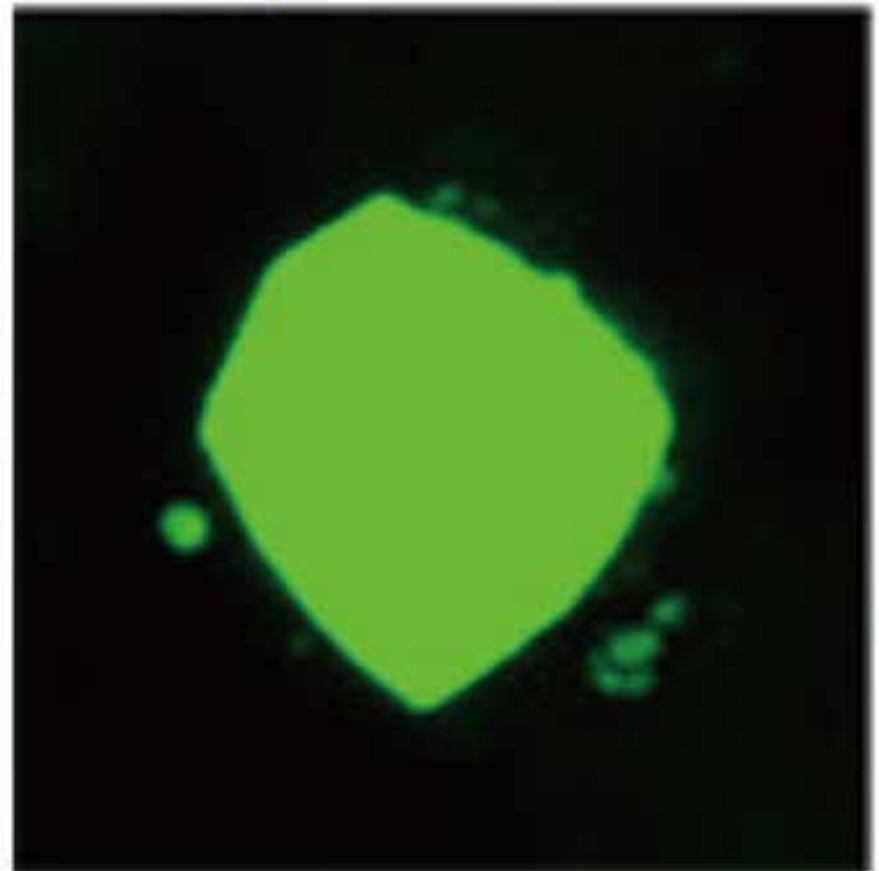


Vector

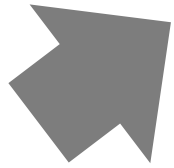
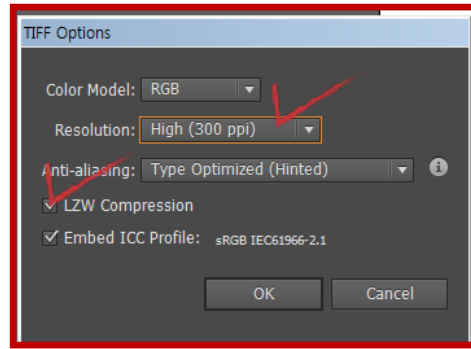
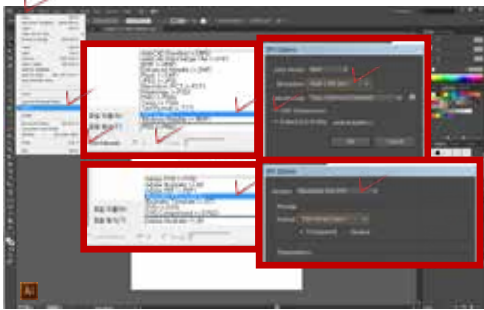
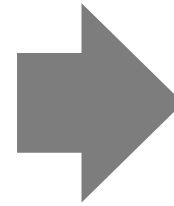
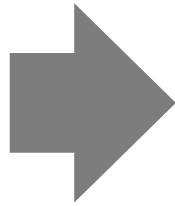




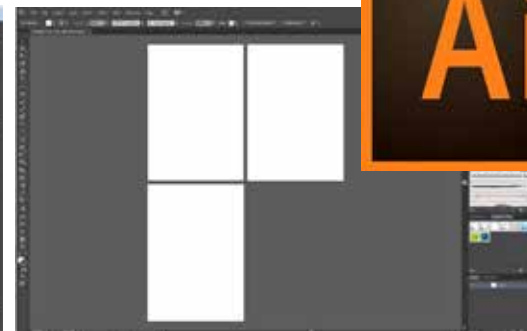
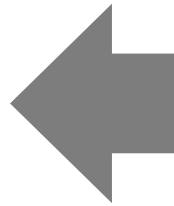
RGB



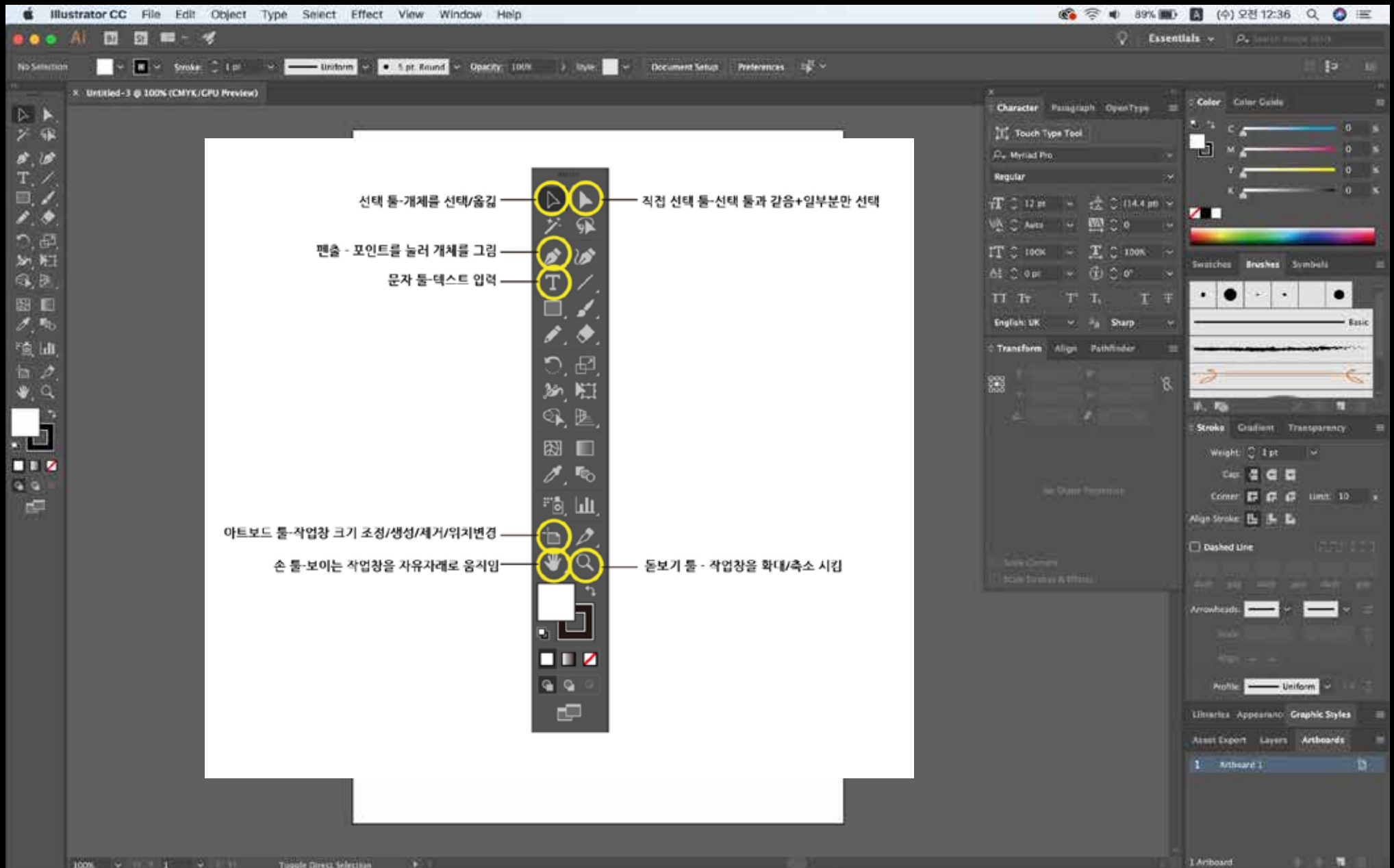
CMYK



Tiff & eps



꼭 필요한 Illustrator 메뉴 확인



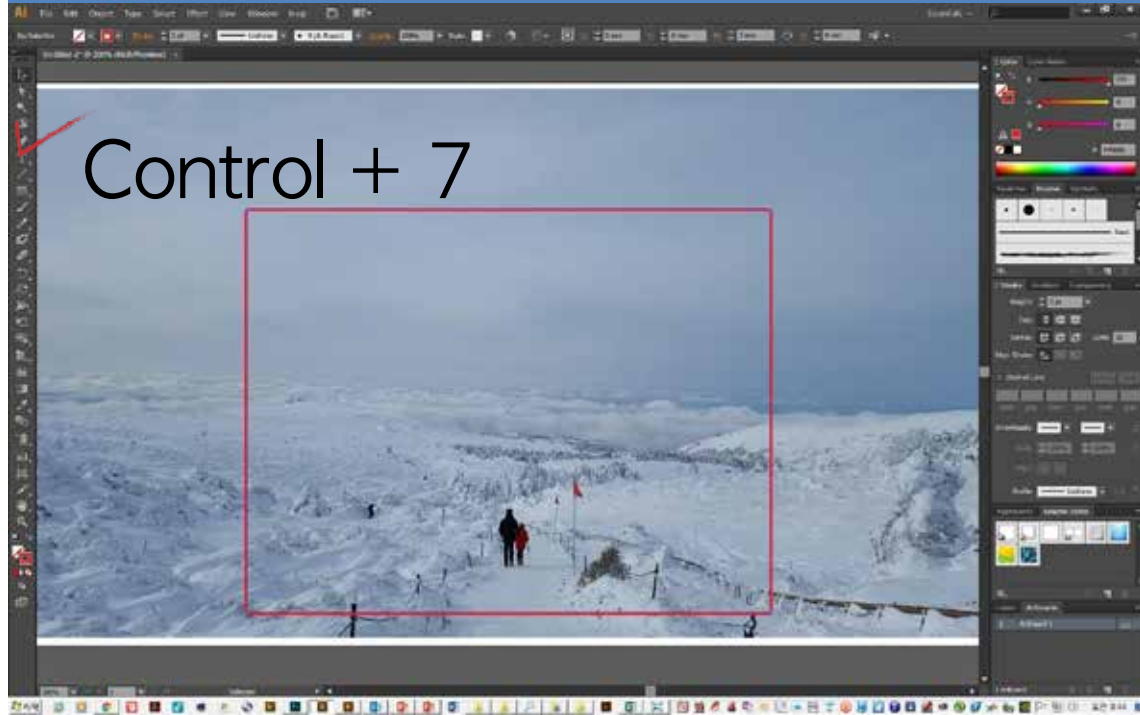
Window 단축키

- 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

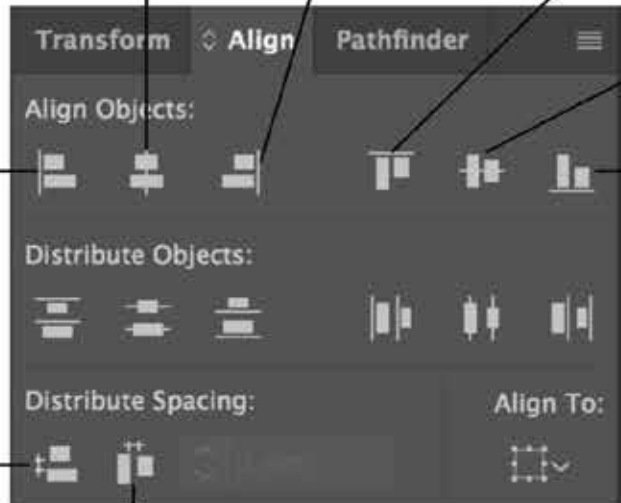
- command + c 복사
- command + v 붙여넣기
- command + z 실행 취소
- command + x 잘라내기
- command + f 앞으로 가져오기
- command + b 뒤로 보내기
- command + 2 고정하기
- command + alt + 2 고정해제
- command + 3 감추기
- command + alt + 3 나타내기
- command + G 그룹하기
- command + shift + G 그룹풀기

Clipping Mask 기능 및 Align





가운데 맞춤 오른쪽 맞춤 위쪽 맞춤



왼쪽 맞춤

가운데 맞춤

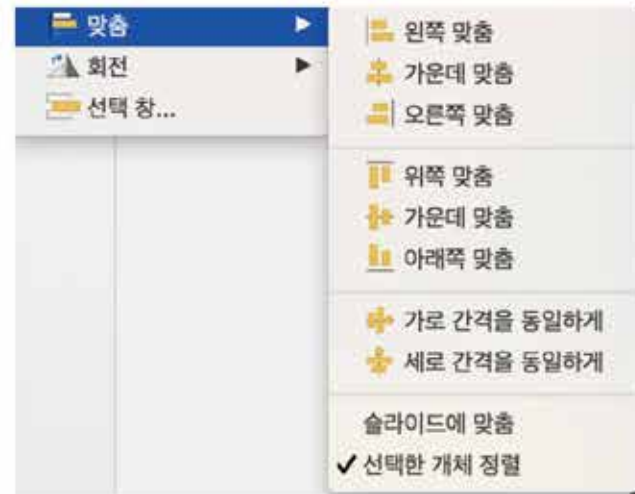
아래쪽 맞춤

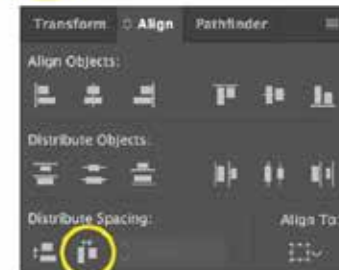
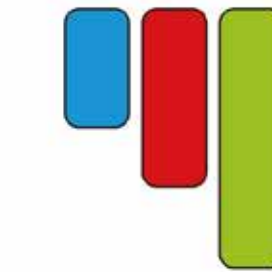
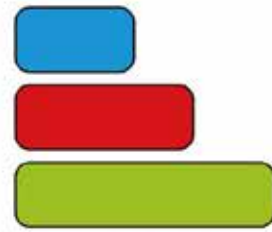
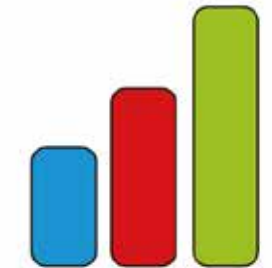
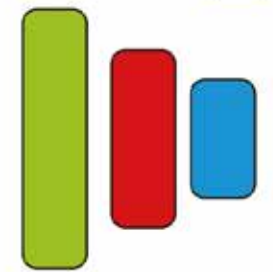
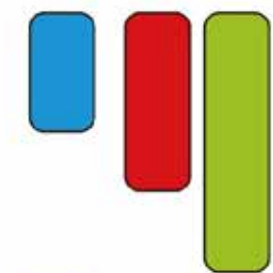
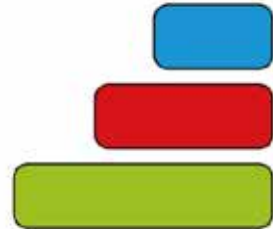
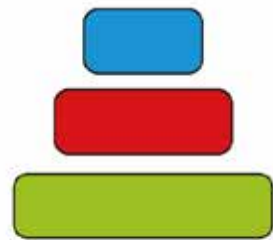
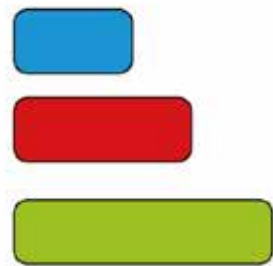
세로 간격을 동일하게

가로 간격을 동일하게

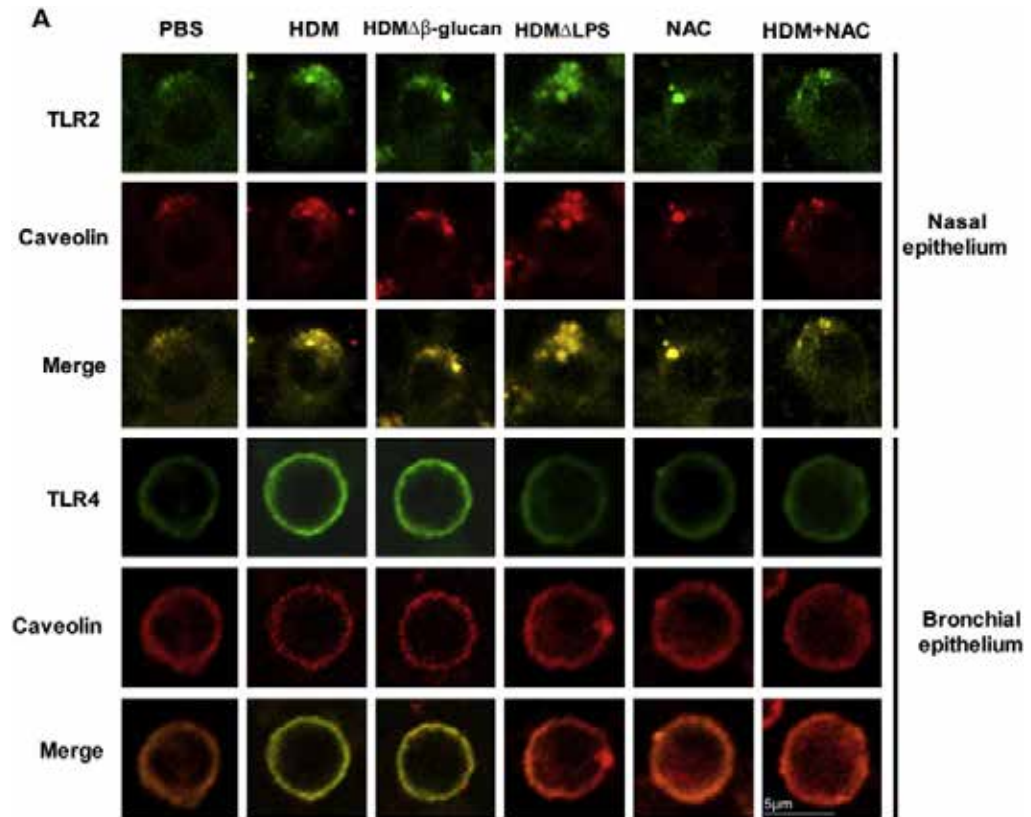
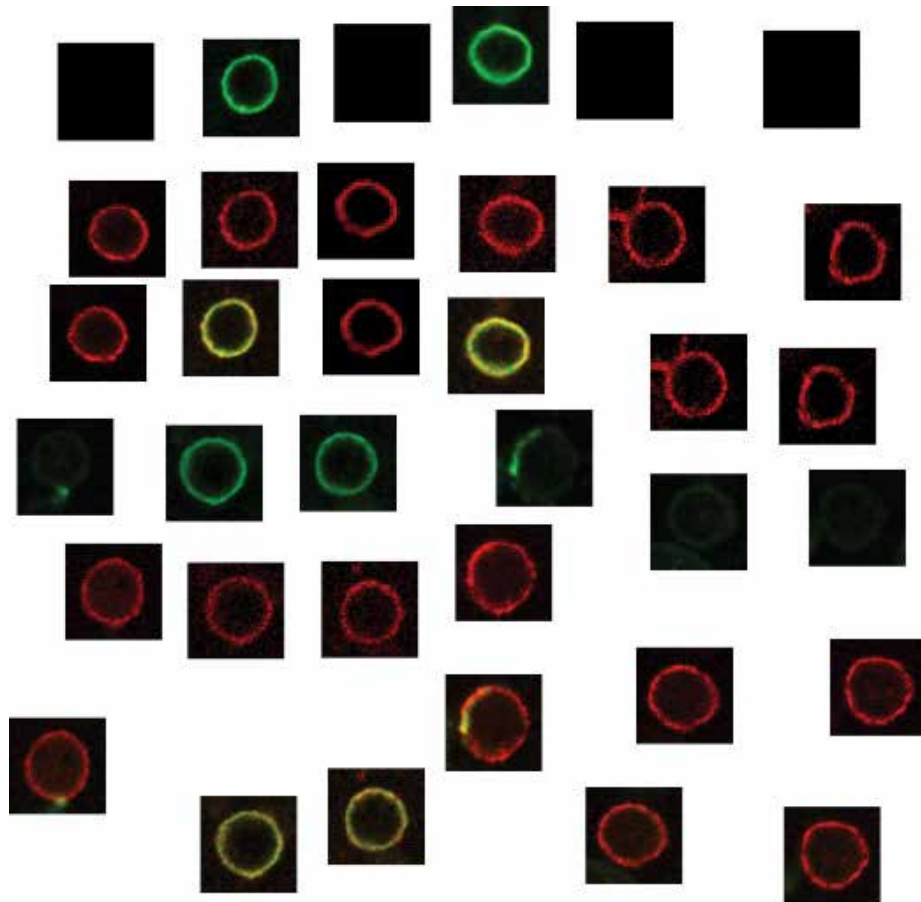


홈 → 정렬





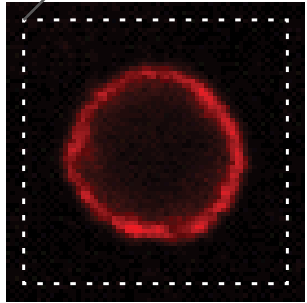
Ai CC



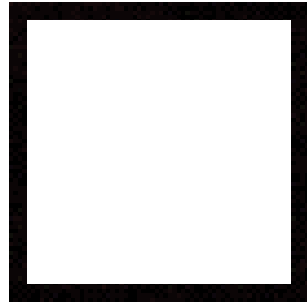
Clipping Mask 통해 사진 편집방법

▶ 선택툴로 진행

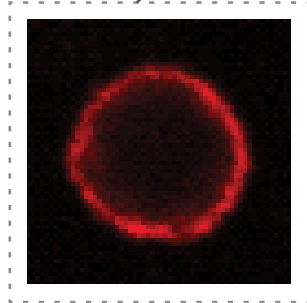
1 이미지 자르는 영역



2 1. 2개 이미지선택
2. Ctal+7



3 감춰진 사진이미지 영역



▶ 직접 선택툴 (사진 이미지 선택)

4

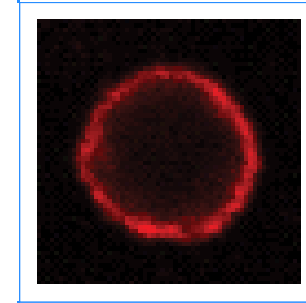
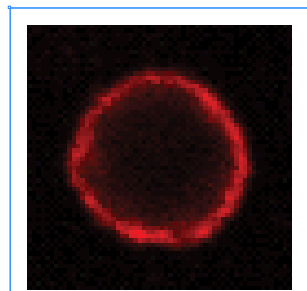


사진 이미지 확대하기

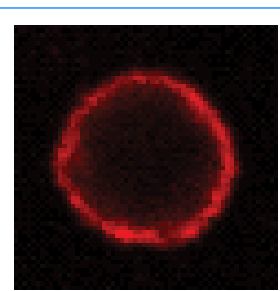
▶ 선택툴 (사진 이미지 선택)

5



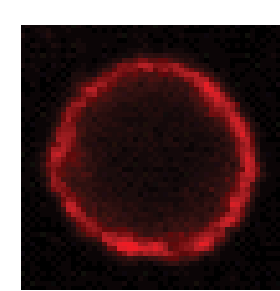
모서리 색이 바뀐.

6



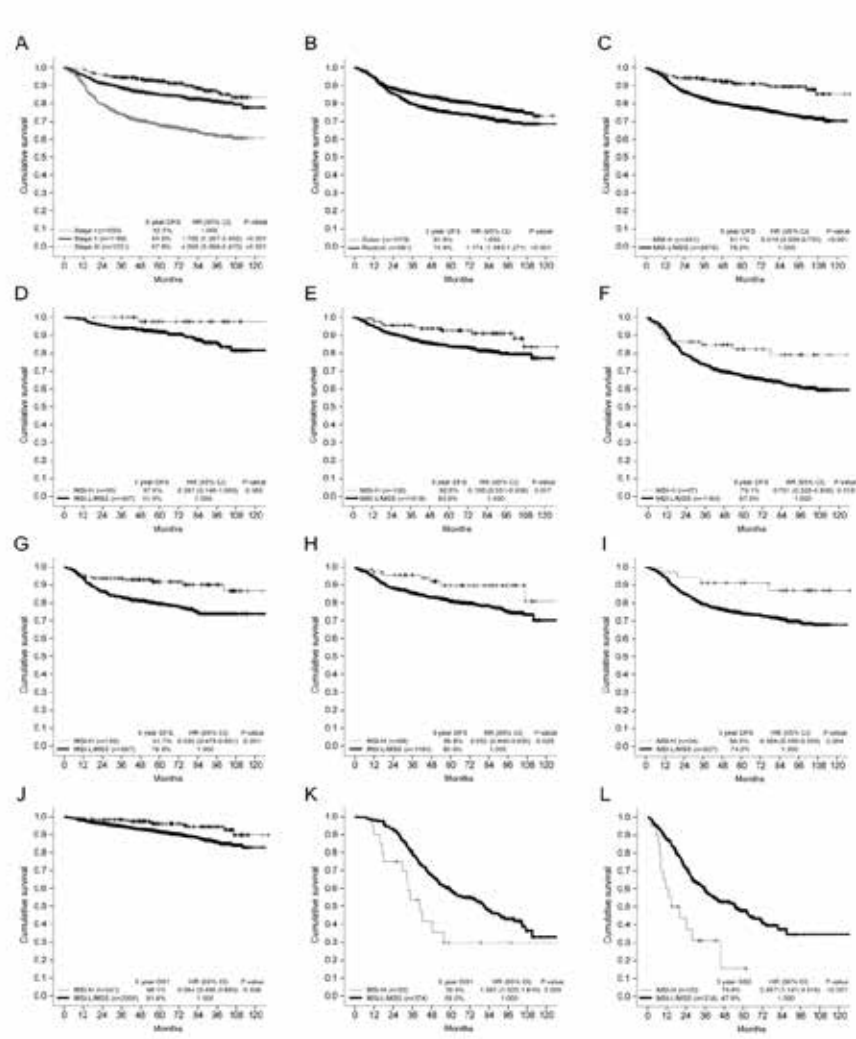
선택툴 상태에서 모서리 다가가면 화살표 나타남.

6

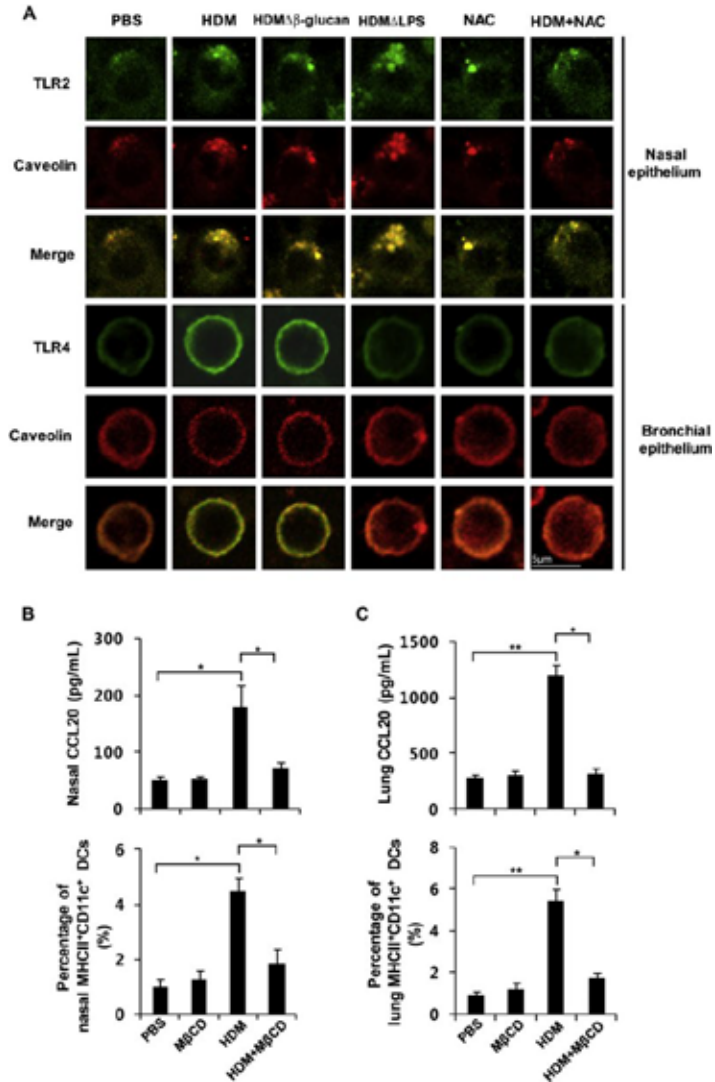


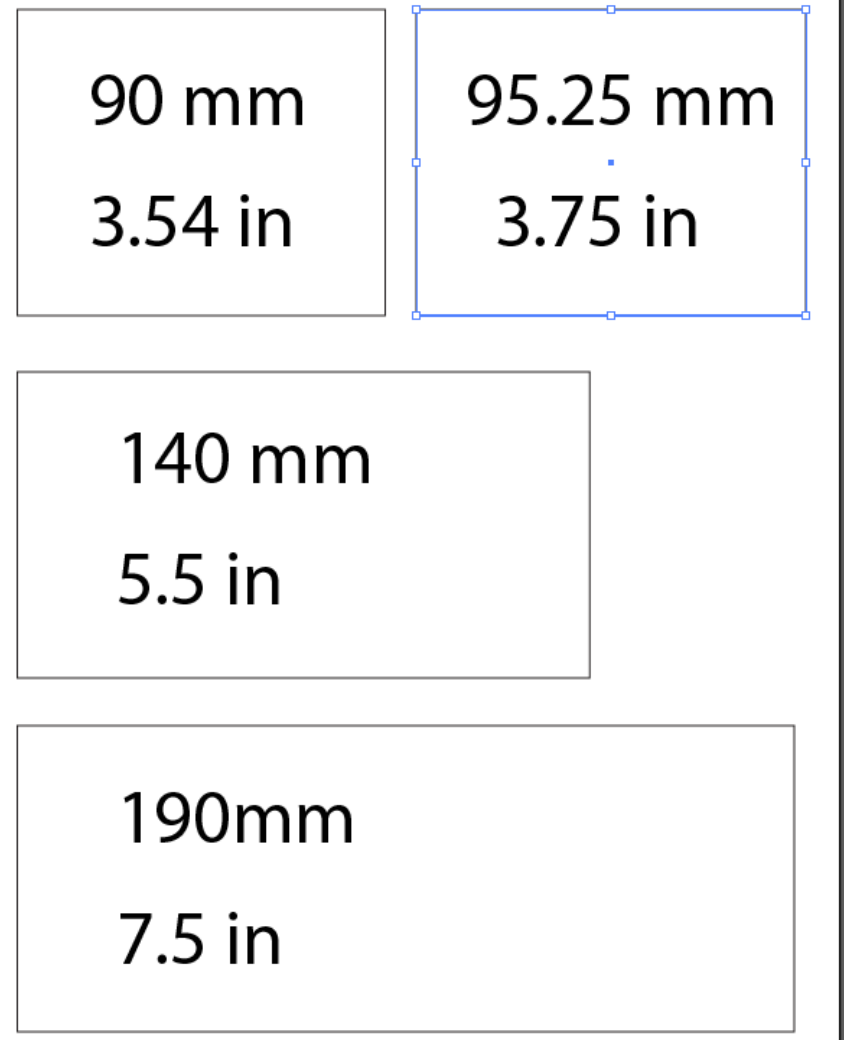
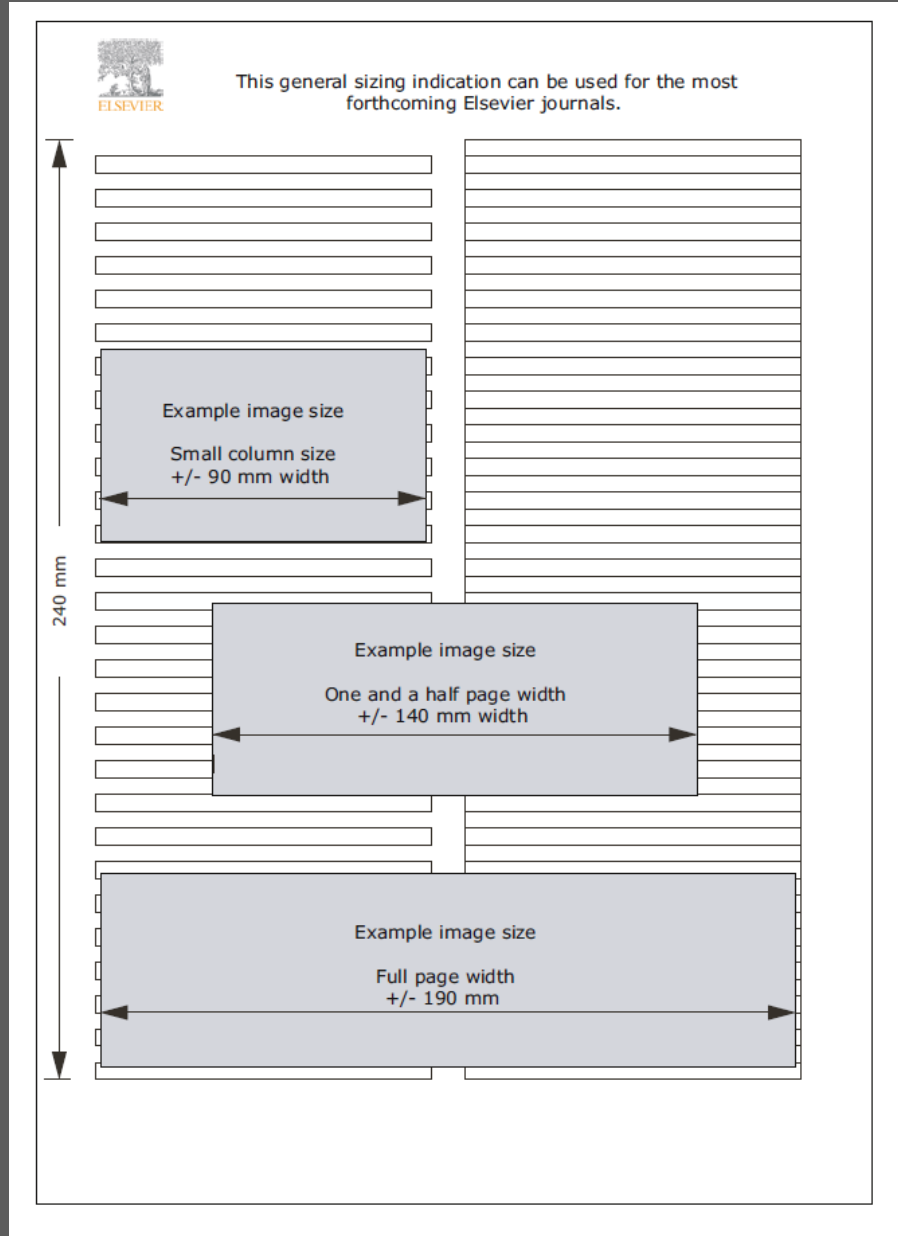
Shift+Alt 누른 상태에서 45도 각도로 밀어줌.

A Type



B Type





Color Guide

R 35
G 31
B 32
231F20

Transform Swatches Symbols

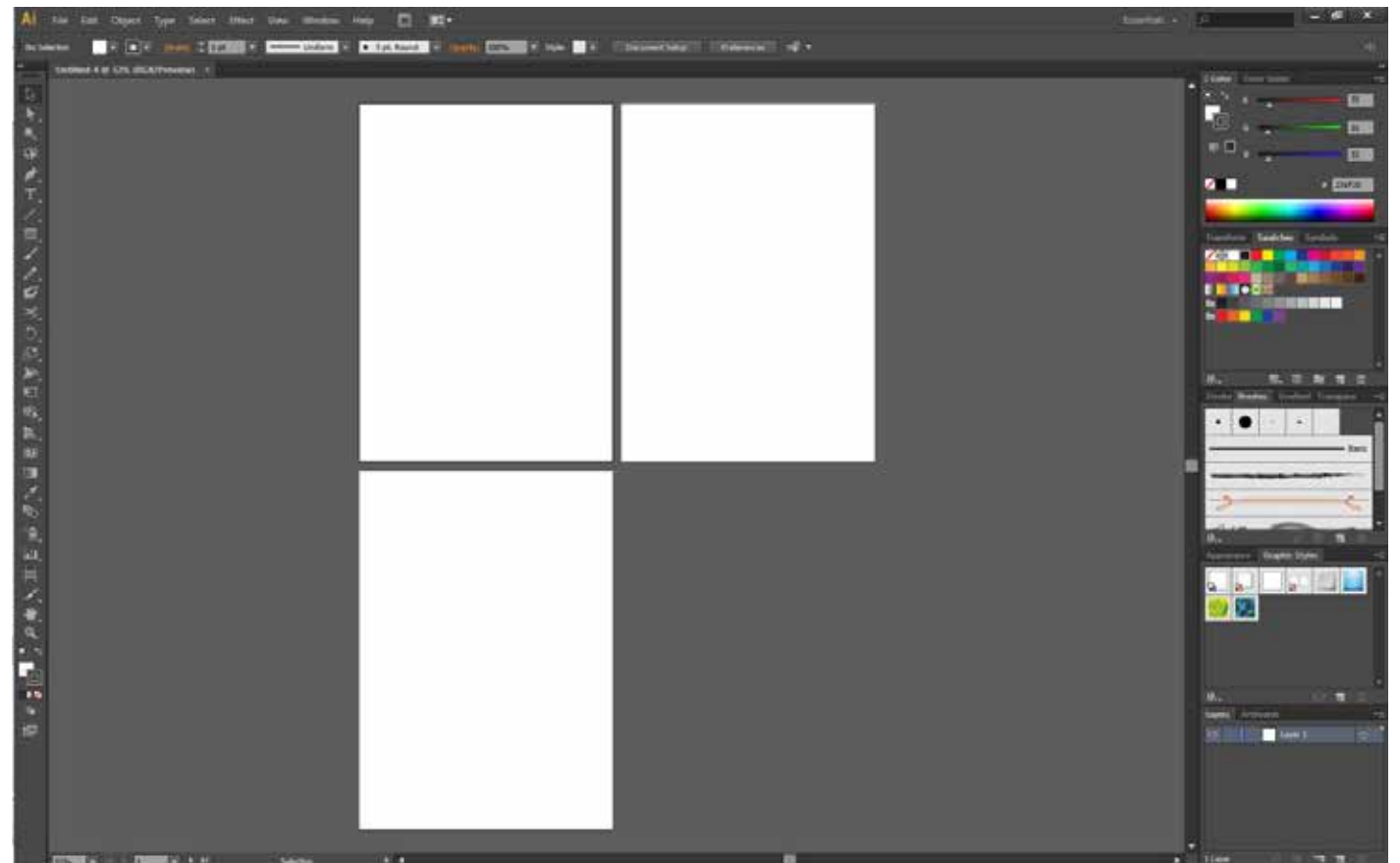
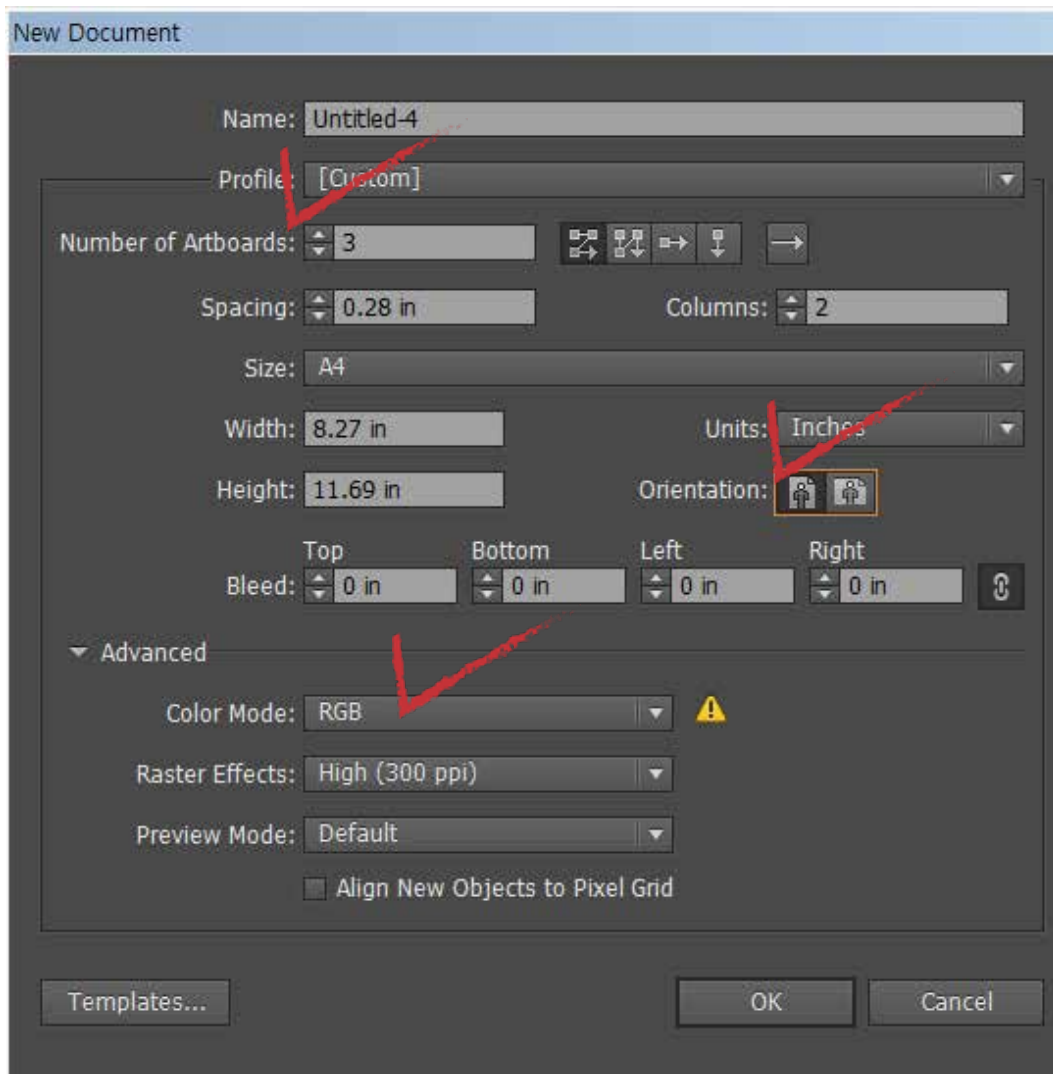
Stroke Brushes Gradient Transpare

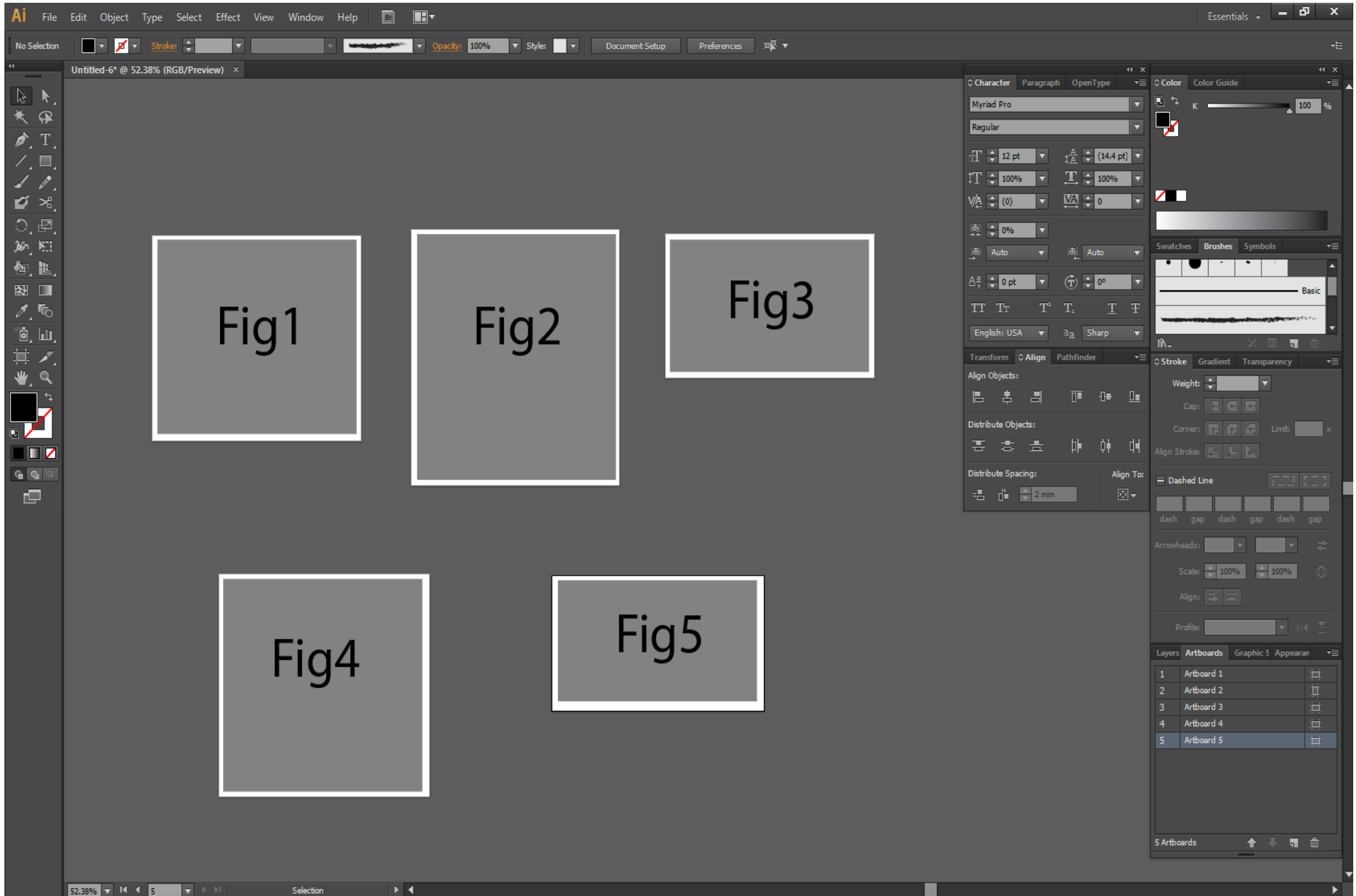
Appearance Graphic Styles

Layers Artboards

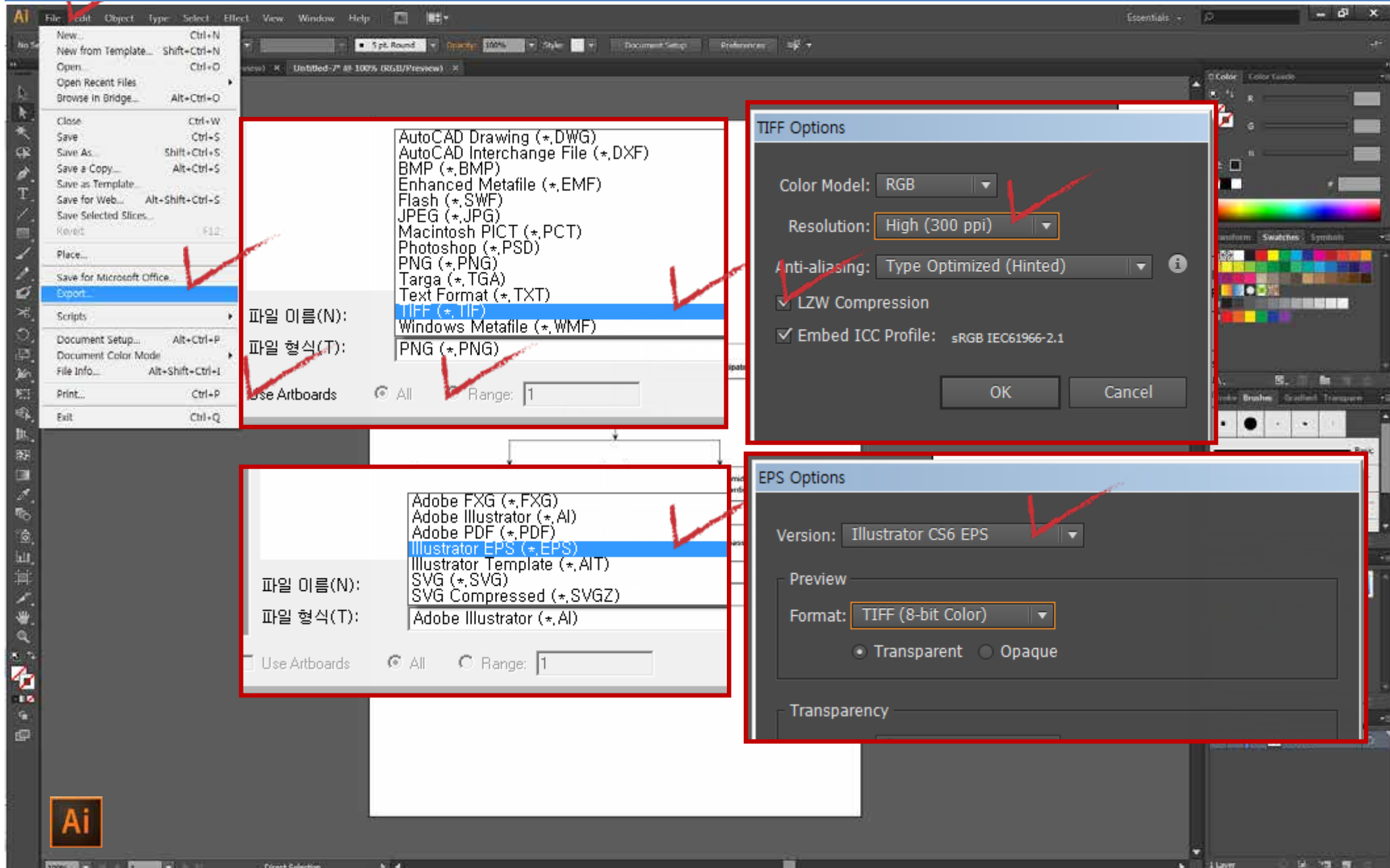
Layer 1

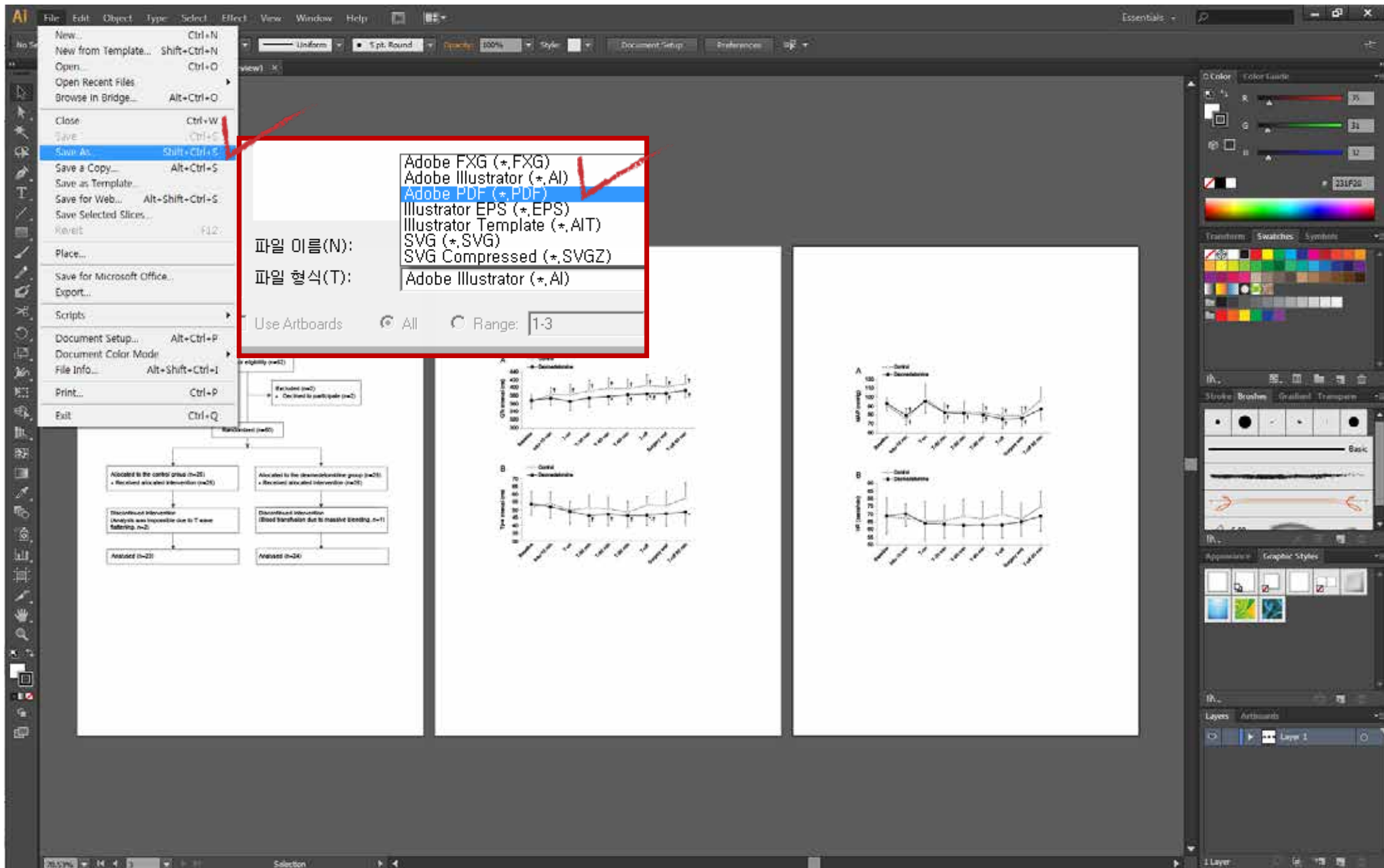
Figure 크기와 논문형식에 맞춰 Artboards 크기조절





Tiff, eps 또는 PDF 변환







PPT



PSD



Tiff



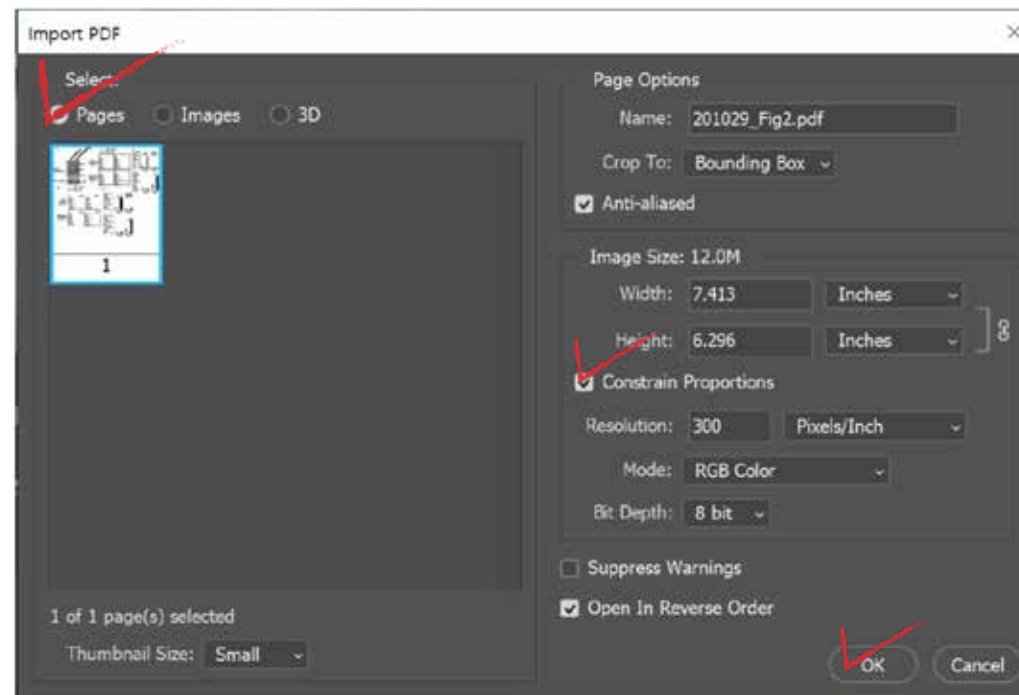
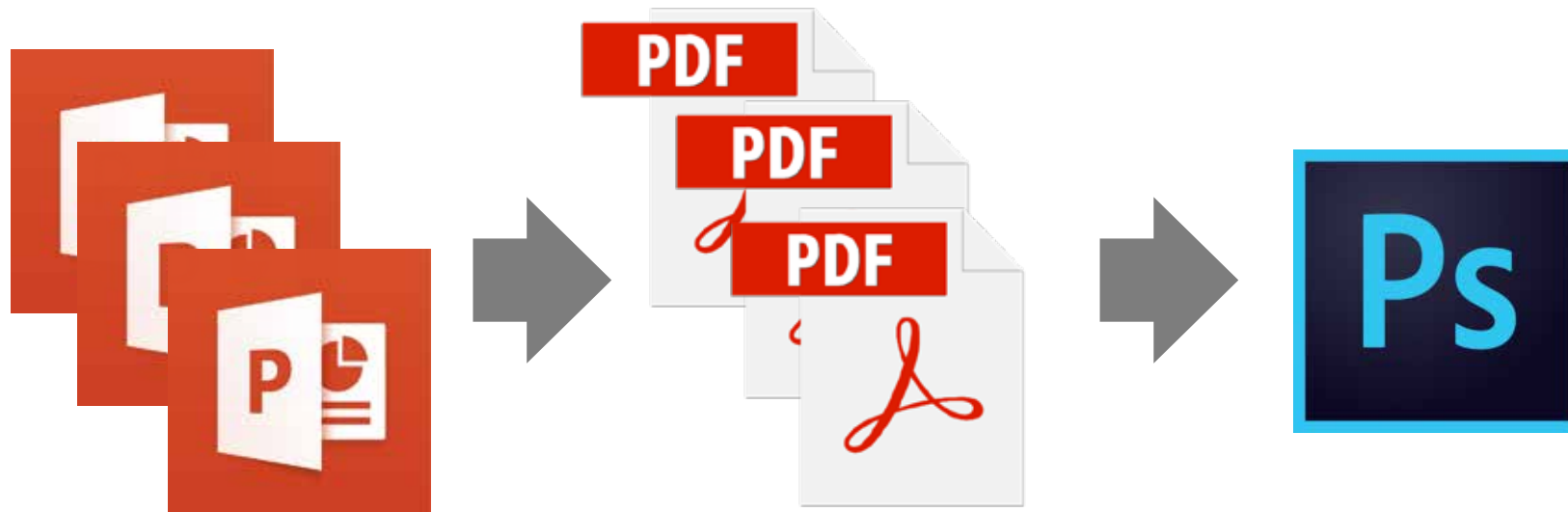
PPT 정리

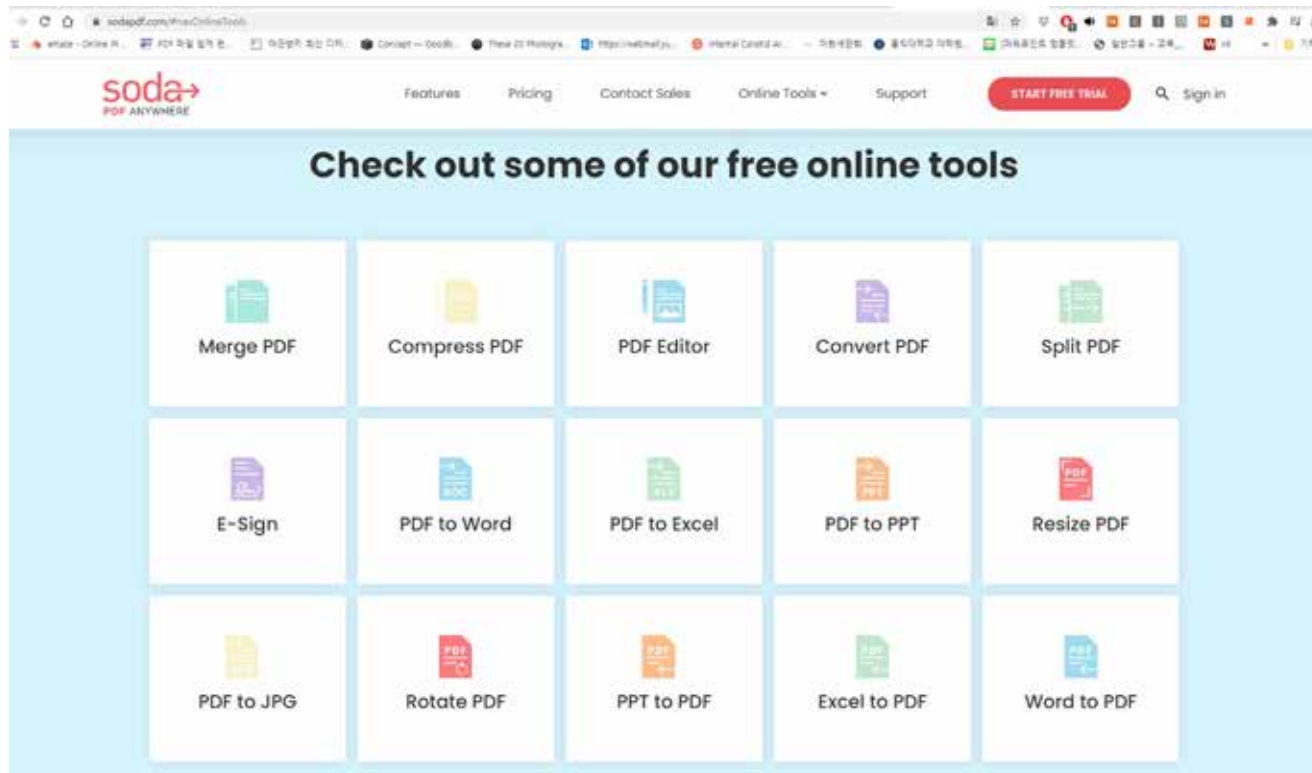


Eps, wmf,
emf, 기타 파일 보관



Tiff & eps





- <https://www.sodapdf.com/pdf-to-ppt/>



감사합니다

Q & A

저작권 양도 계약

Copyright of Artwork

Dear Editor of Otolaryngology-Head & Neck Surgery

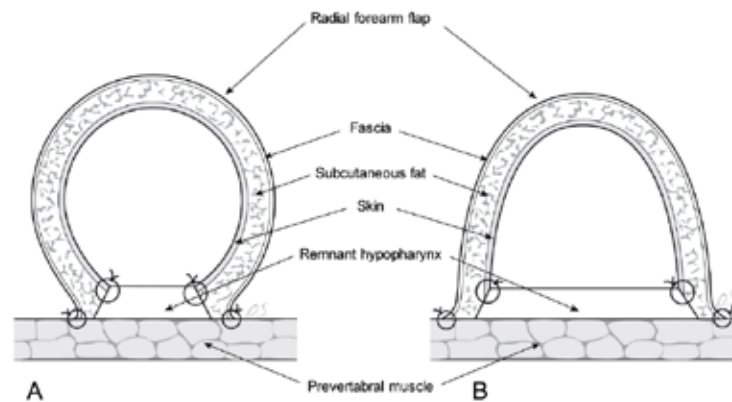
Title: Hypopharyngeal Reconstruction Using the Remnant Narrow Pharyngeal Wall as an Omega-shaped Radial Forearm Free Flap

Authors: Jong Won Hong, MD, Hui Sun Jeong, MD, Dae Hyun Lew, MD, Tai Suk Roh, MD, Kwan Chul Tark, MD, Eun Chang Choi, MD*, Won Jai Lee, MD

Institution: Institute for Human Tissue Restoration, Department of Plastic & Reconstructive Surgery,

*Department of Otolaryngology, Yonsei University, College of Medicine, Seoul, Korea

DongSu Jang (Yonsei University) drew the illustration (figure 1.) and there is no problem to reprint it.



2008. 10. 24. **DongSu Jang** (signature)

Copyright Transfer Agreement

For Clinical Orthopaedics and Related Research

Copyright Transfer Agreement to The Association of Bone and Joint Surgeons®

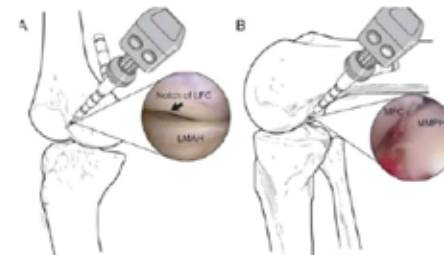
*Manuscript Number (if applicable): 14-00576

*Manuscript Title: "One-Stage Reconstruction in Combined Anterior and Posterior Cruciate Ligament Injuries"

*Corresponding Author Name: Se-Won Lee, M.D.

For publication in Clinical Orthopaedics and Related Research, Dong-Su Jang (medical illustrator, Medical Research Support Section, Yonsei University College of Medicine, Seoul, Korea)

transfers copyright and assigns to The Association of Bone and Joint Surgeons (ABJS) all rights and interest of figure in the article (CORR 14-00576).



Name: **Dong-Su Jang**

Medical illustrator, Medical Research Support Section,
Yonsei University College of Medicine, Seoul, Korea

E-mail: artanato@yuhs.ac

Signature: *Dong Su Jang*

단계별 적용 가이드



1. 네이버(지식쇼핑)

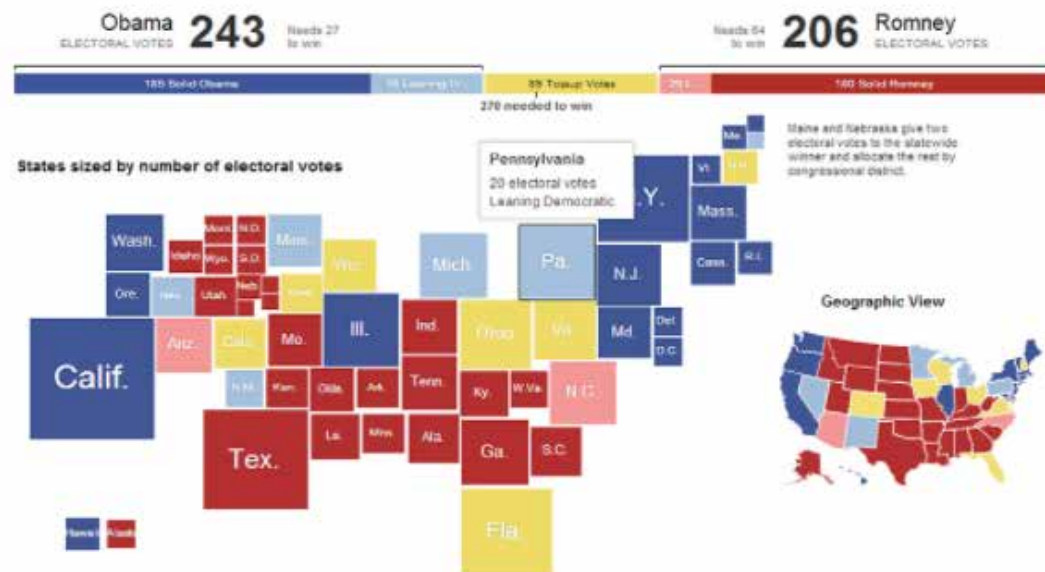
색각 이상자들이 명확히 볼 수 있는 색상을 적용하였으며, 흑백 화면에서도 구분 가능한 패턴 및 레이블을 사용했다.



*출처: NAVER 지식쇼핑 > 베스트100 > 인기쇼핑몰

2. 지도 (미국 대선 지역별 전자투표 현황)

구분하기 쉬운 명도, 채도 대비를 사용했으며, 도면 안에 줄무늬 패턴과 레이블을 제공했다.



1. 99%의 색각이상자(적록색맹)를 위한 채도 변경

빨간색은 초록색 or 갈색과 혼동할 수 있으므로 주황 계열로 채도 변경하고,

초록색은 빨간색 or 갈색과 혼동할 수 있으므로 청록 계열로 채도 변경하는 것이 좋습니다.



2. 색각이상자가 구분하기 어려운 색상과 조합 사용을 지양

아래와 같이 구분이 어려운 색상 조합을 지양합니다.

빨간색-초록색, 초록색-갈색, 노란색-초록색, 파란색-분홍색, 짙은 파란색-보라색

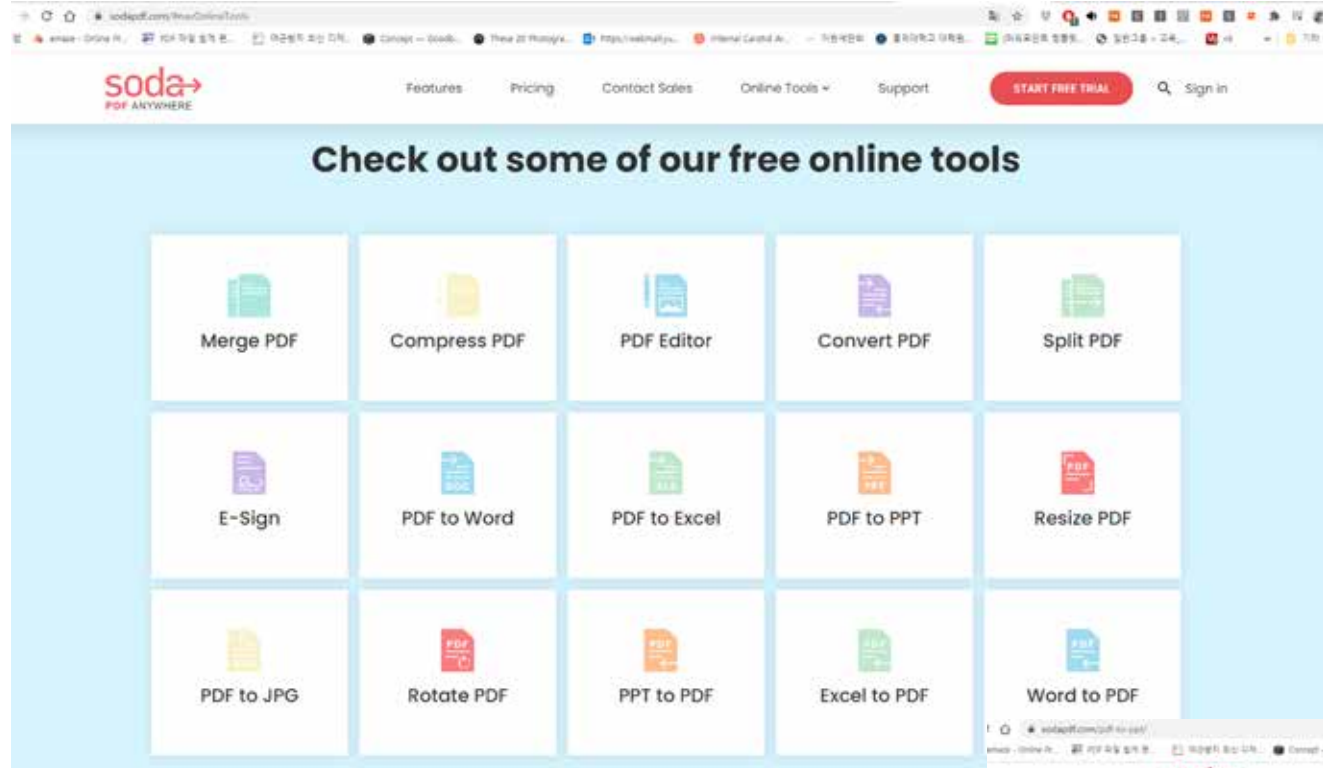
3. 색각이상자가 명확히 구분할 수 있는 색상표 사용

Color Universal Design Organization (<http://www.cudo.jp/e>) 의 오카베 마사타카,

이토 케이의 연구 결과에 따르면 색각 이상자가 명확히 구분할 수 있는 색상표는 다음과 같습니다.

총 8개의 색상이 제시되어있으나 복수의 색상 사용 시, 최소한의 색만 사용하는 것을 권장합니다.





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Thank You.

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