ImaChek

Bringing Clarity to Research

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Benefícios do ImaChek

Feito para uso em imagens da área de Ciências da Vida

O ImaChek é construído com algoritmos que reconhecem características gráficas e padrões exclusivos de imagens de ciências biológicas, incluindo imagens de microscopia e eletroforese em gel.

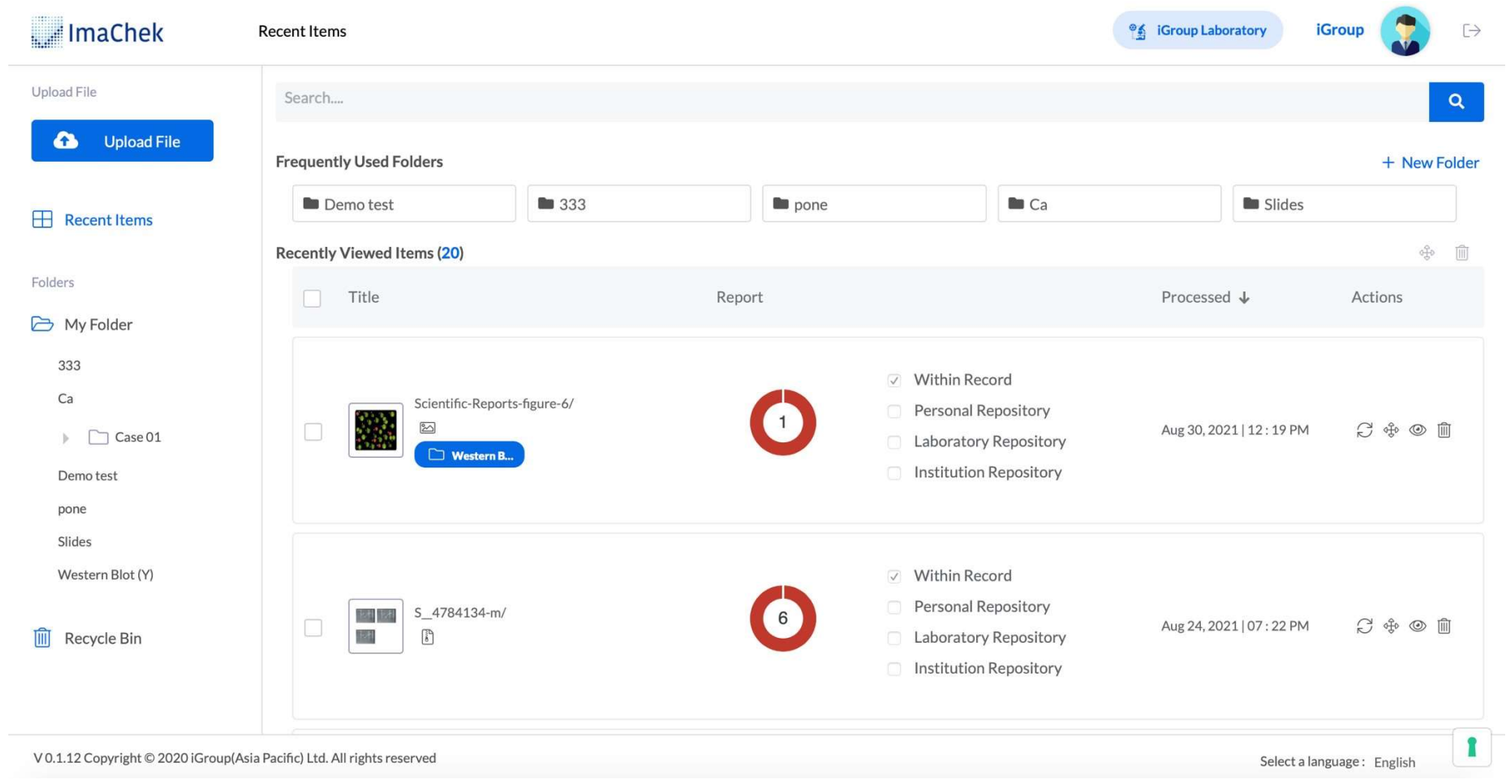
Verificação de duplicação em artigos e entre imagens

Sinais de manipulação inadequada e duplicação podem ser verificados simultaneamente no mesmo artigo e também entre imagens.

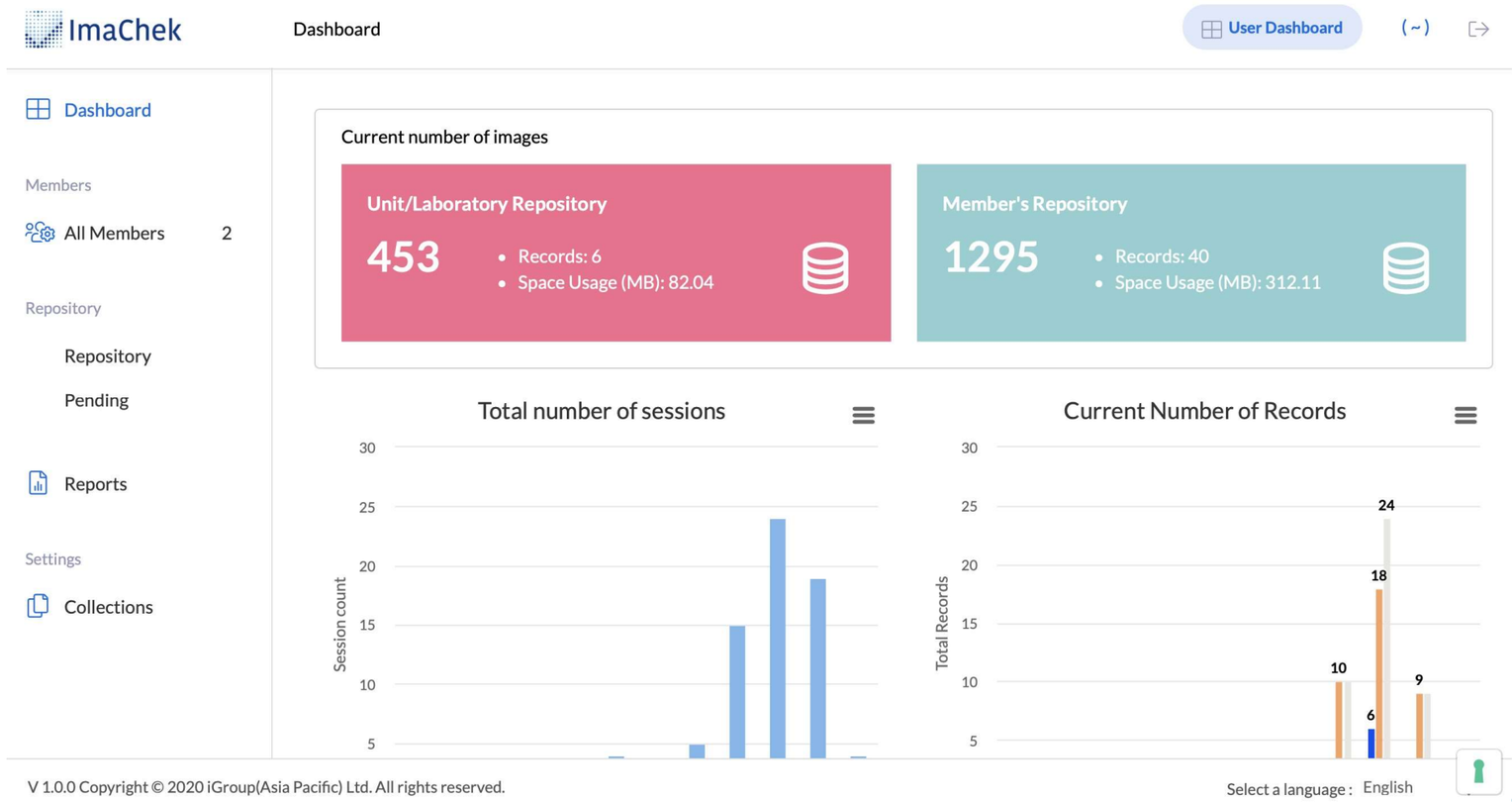
Classificação e corte automáticos

A análise começa assim que os arquivos PDF contendo os dados da imagem são carregados, economizando tempo e trabalho para cortar e carregar cada imagem individualmente.

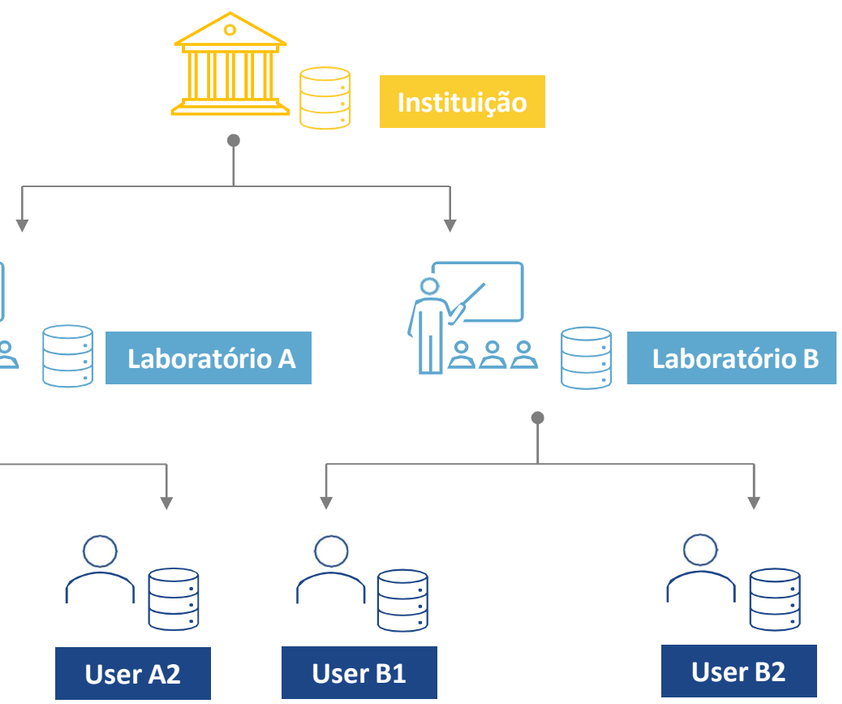
Plataforma do ImaChek



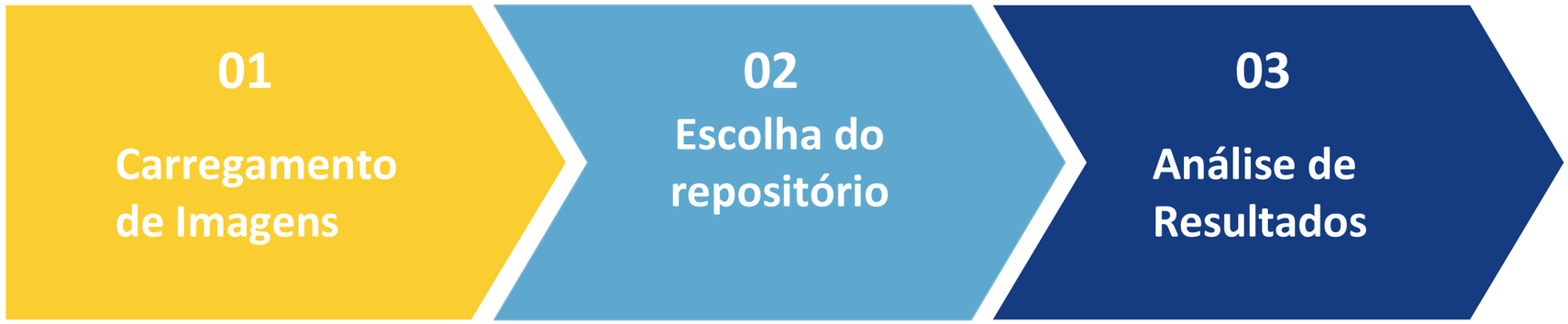
Plataforma do ImaChek - Admin



Estrutura do ImaChek

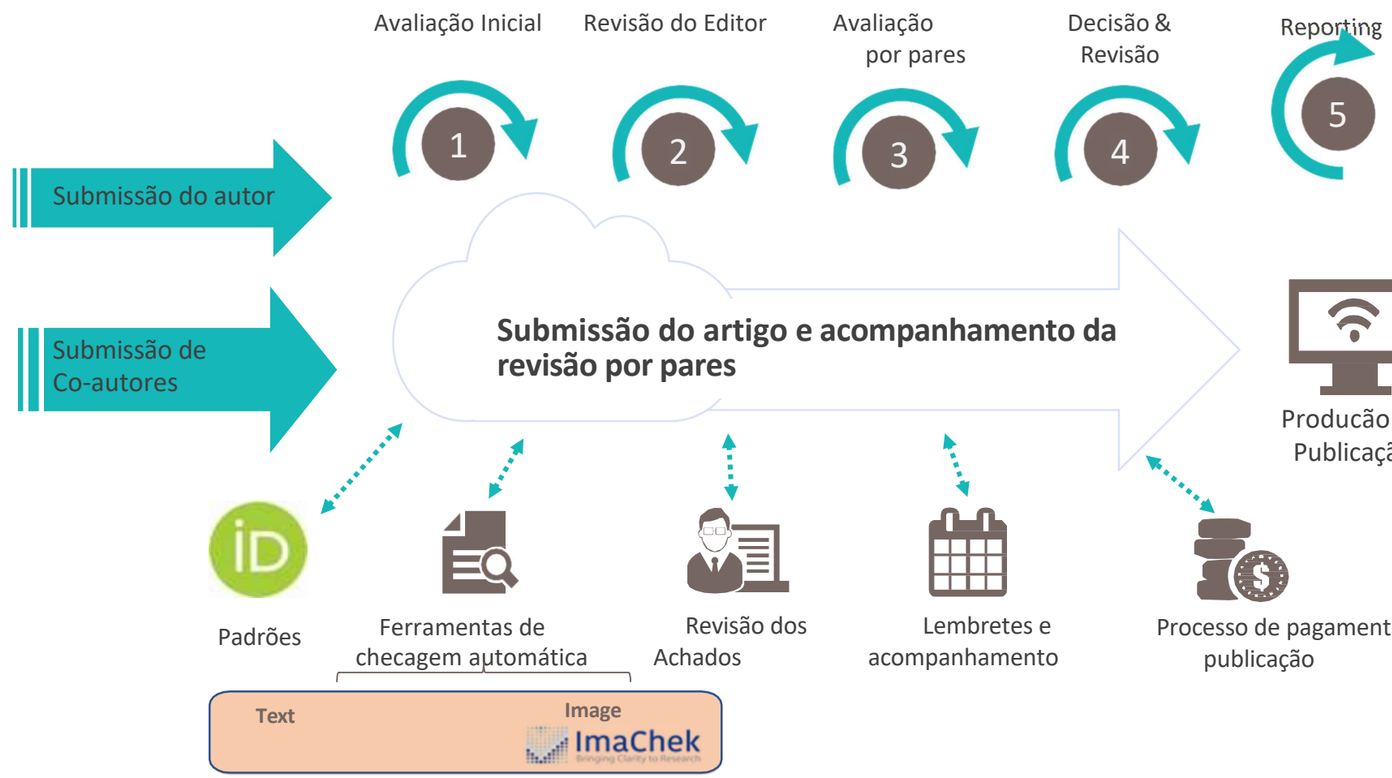


Processo de Checagem



- Acesso por Usuário/Senha (dentro do range de IPs autorizado)
- Sem limitação de usuários simultâneos nem de número de submissões de análise

Processo de checagem (com fluxo de publicação)



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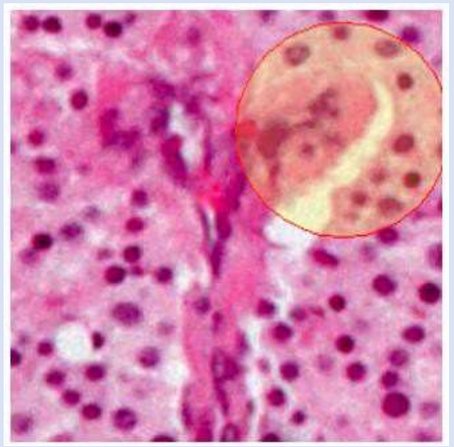
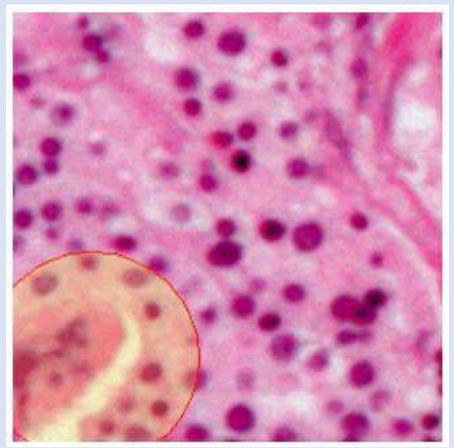
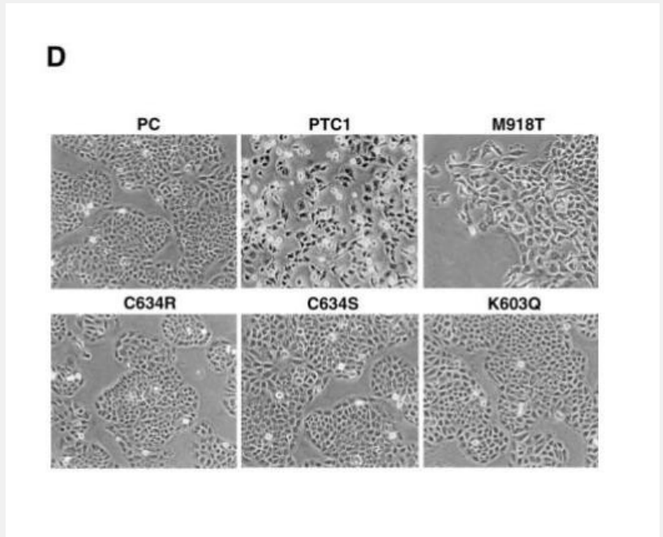
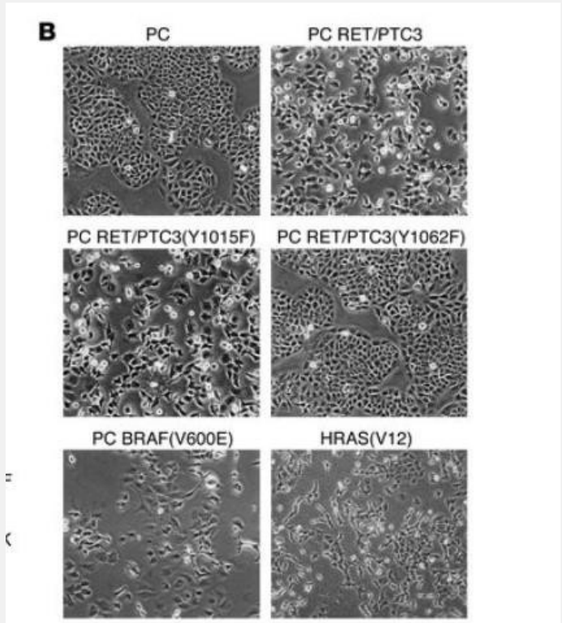




Você é super observador?

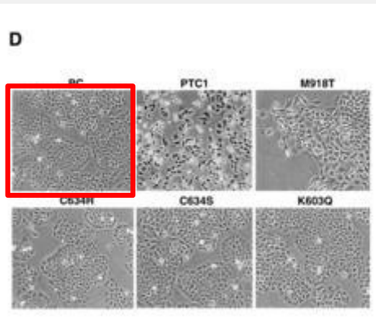
ImaChek Use Case: I
Imagem reutilizada de outras fontes



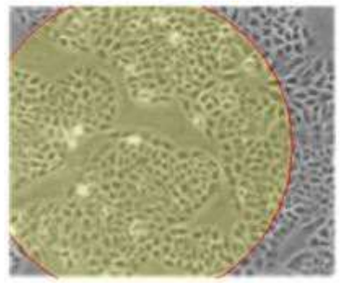


ImaChek Use Case: I
Imagem reutilizada de outras fontes

Original Image



Processed Image



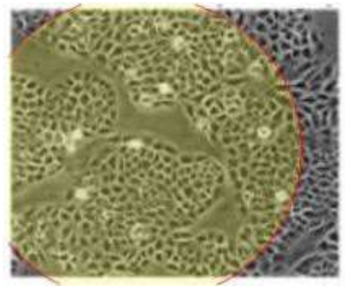
Resolution: 150 * 125

Low Similarity

Within Record

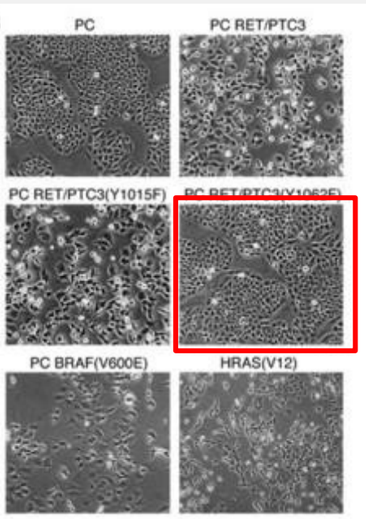
Color:	84%
Fingerprint :	50%
Features:	17

Processed Image

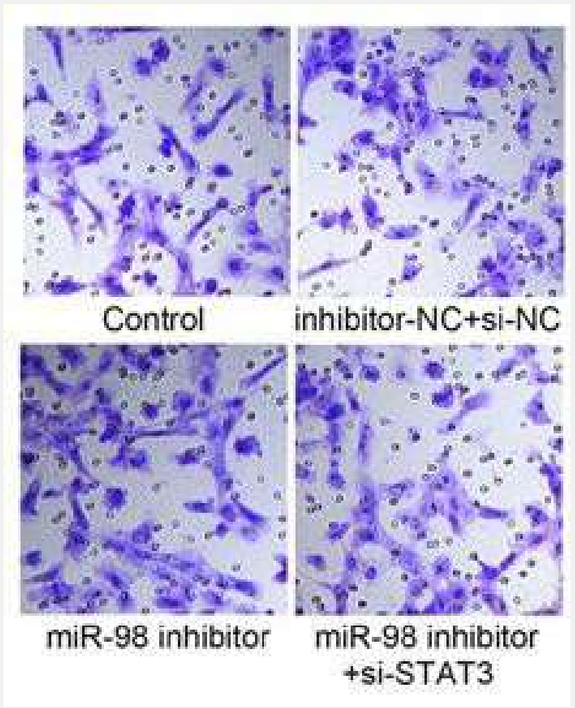


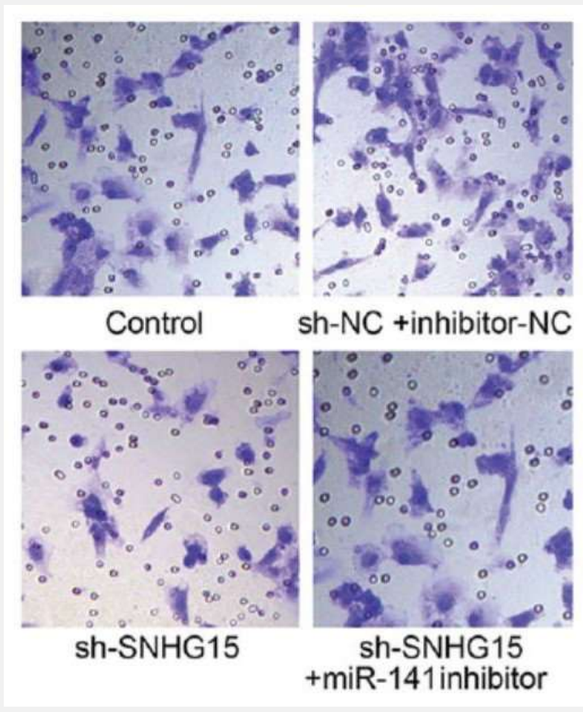
Resolution: 156 * 136

Original Image



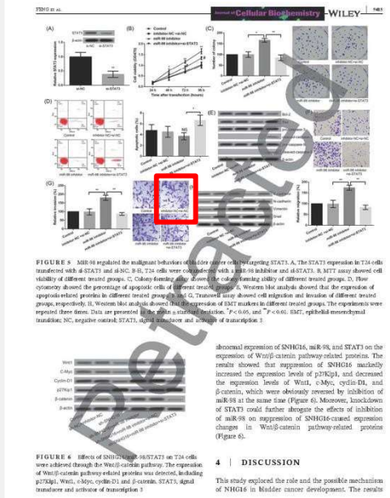
ImaChek Use Case: II
Imagem reutilizada de outras fontes





ImaChek Use Case: II
Imagem reutilizada de outras fontes

Original Image



Processed Image

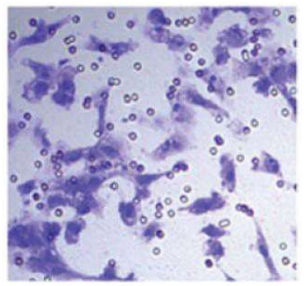
Resolution: 142 * 143

Medium Similarity

Laboratory Repository

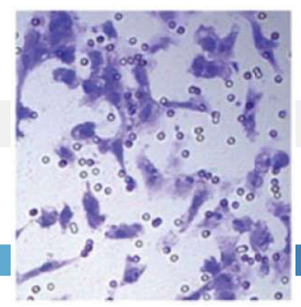
Color:	89%
Fingerprint :	50%
Features:	283

Processed Image

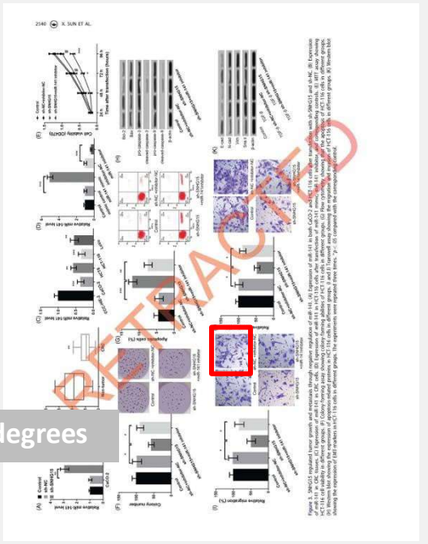


Resolution: [illegible]7

Rotate 90 degrees



Original Image



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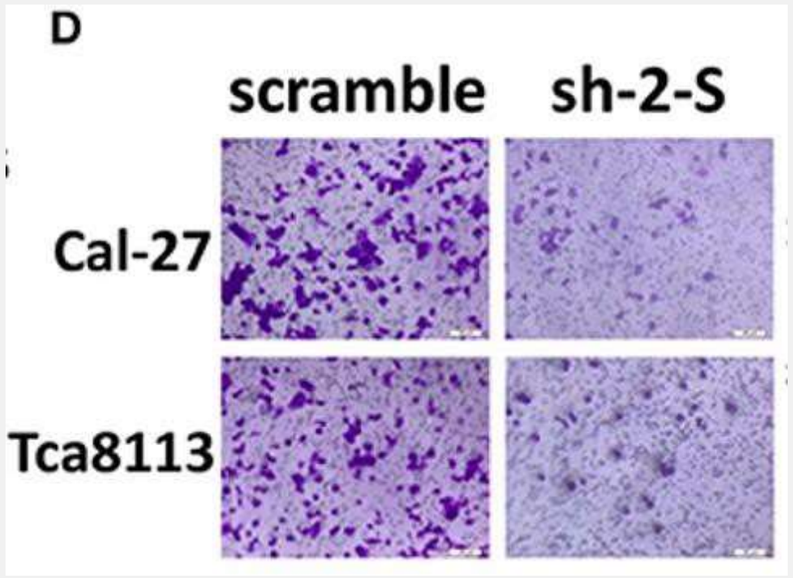
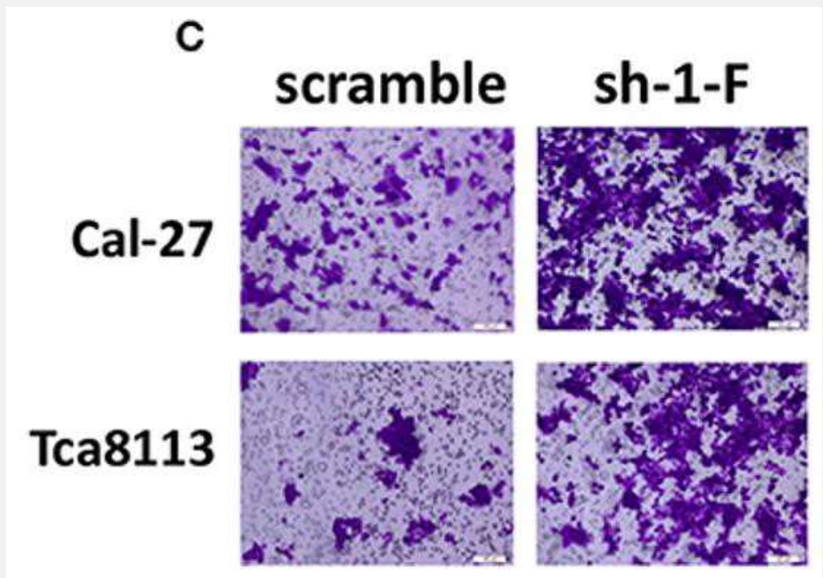
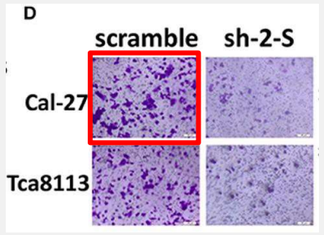
ImaChek Use Case: III
Duplicação de Imagem (dentro do mesmo paper)



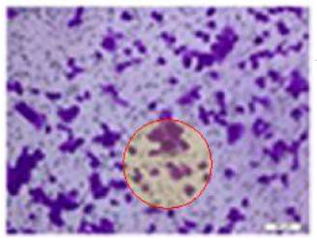


ImaChek Use Case: III
Duplicação de Imagem (dentro do mesmo paper)

Original Image



Processed Image



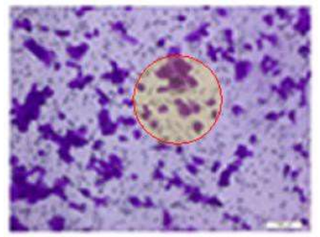
Resolution: 169 * 128

High Similarity

Within Record

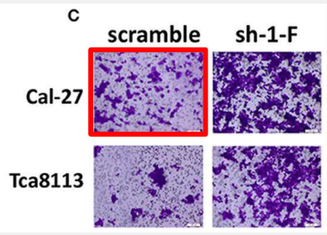
Color: 99%
Fingerprint : 59%
Features: 198

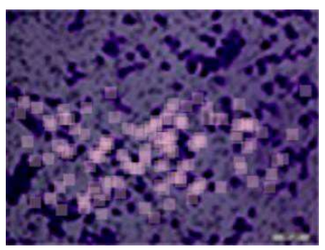
Processed Image

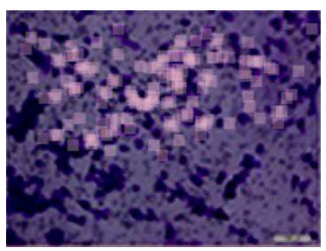


Resolution: 191 * 143

Original Image







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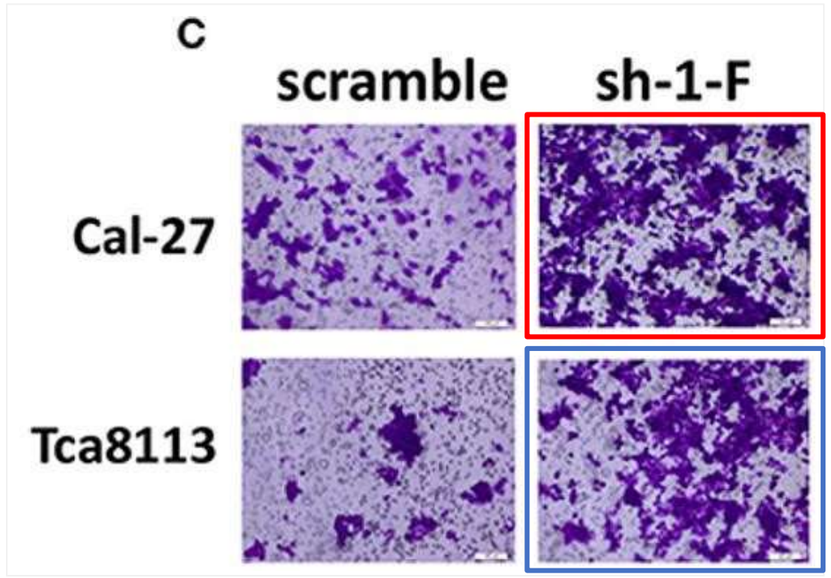
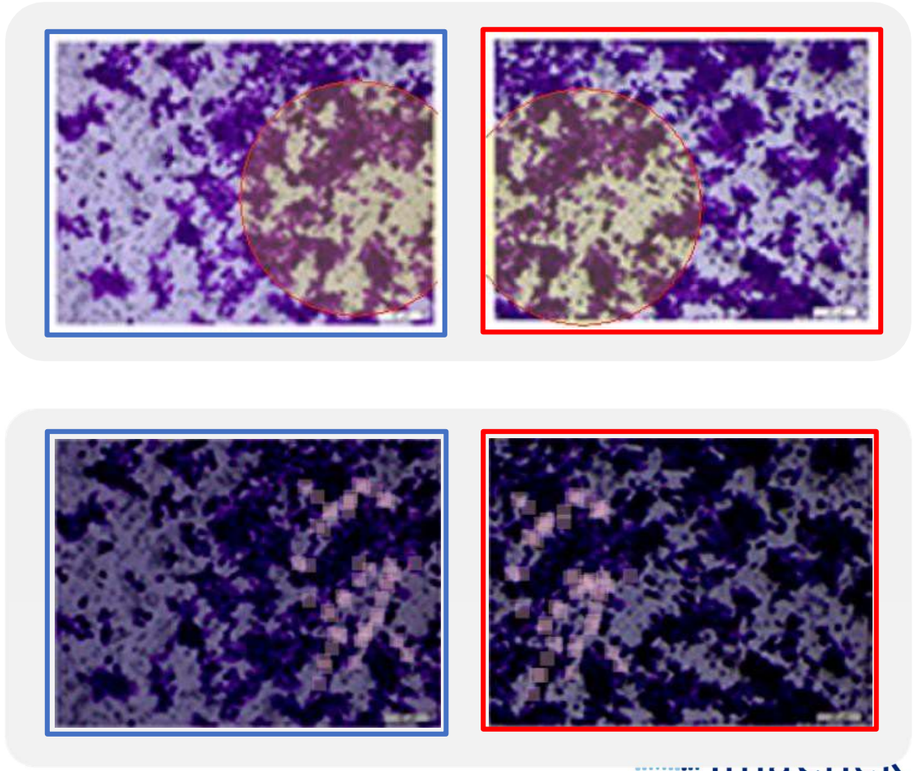
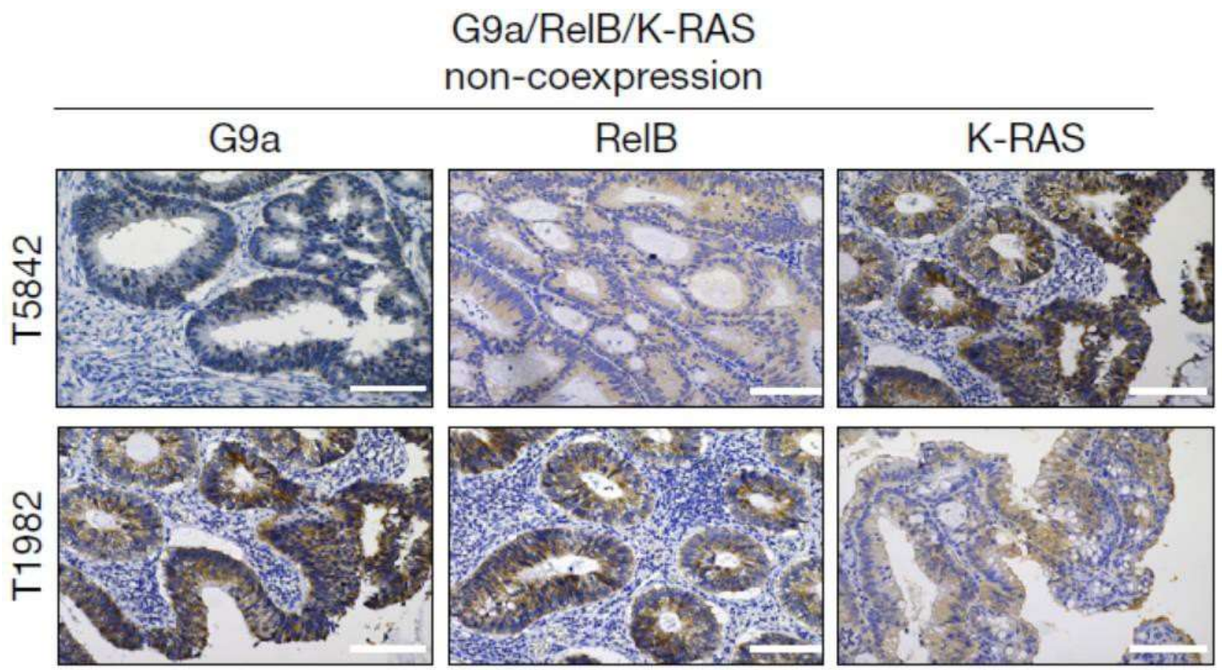
ImaChek Use Case: III
Duplicação de Imagem (dentro do mesmo paper)

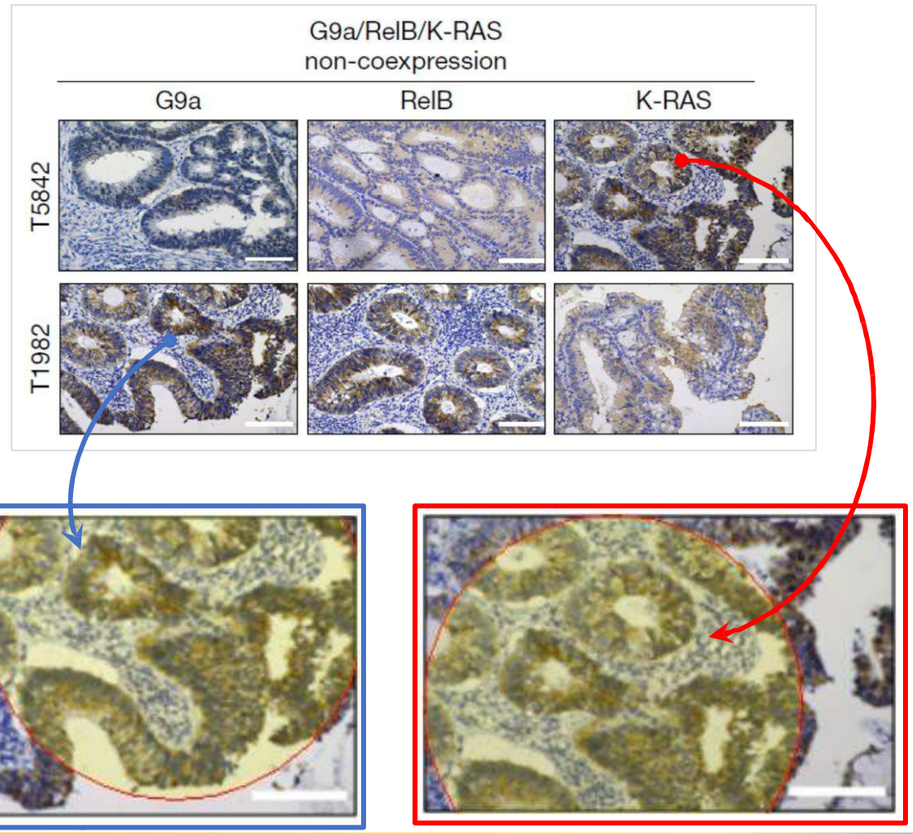


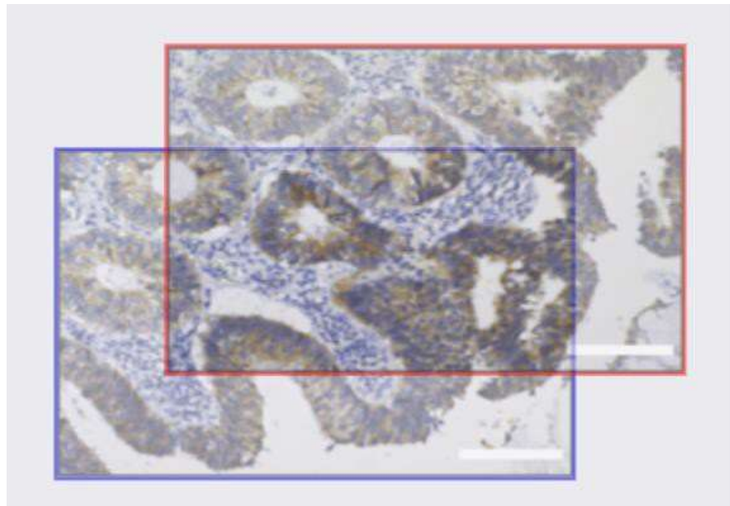


ImaChek Use Case: IV
Duplicação de Imagem (dentro do mesmo paper)



ImaChek Use Case: IV
Duplicação de Imagem (dentro do mesmo paper)





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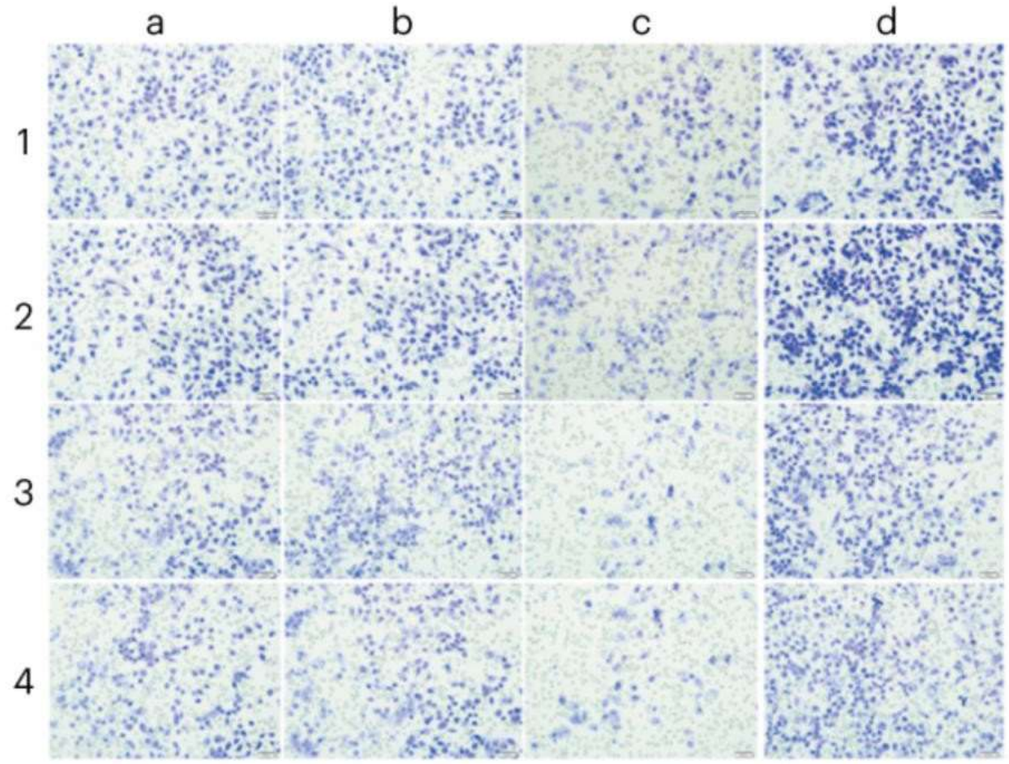
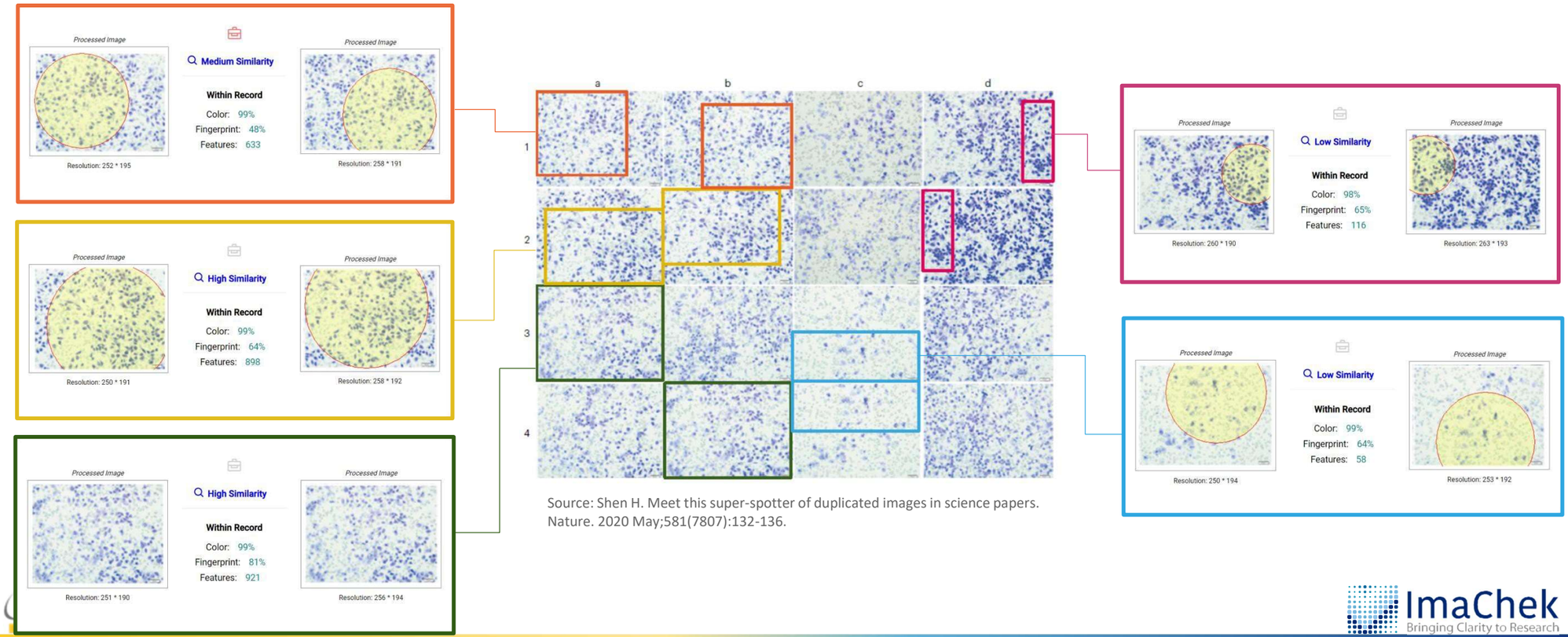
ImaChek Use Case: V
Duplicação de Imagem (dentro do mesmo paper)



ImaChek Use Case: V
Duplicação de Imagem (dentro do mesmo paper)



Source: Shen H. Meet this super-spotter of duplicated images in science papers. Nature. 2020 May;581(7807):132-136.

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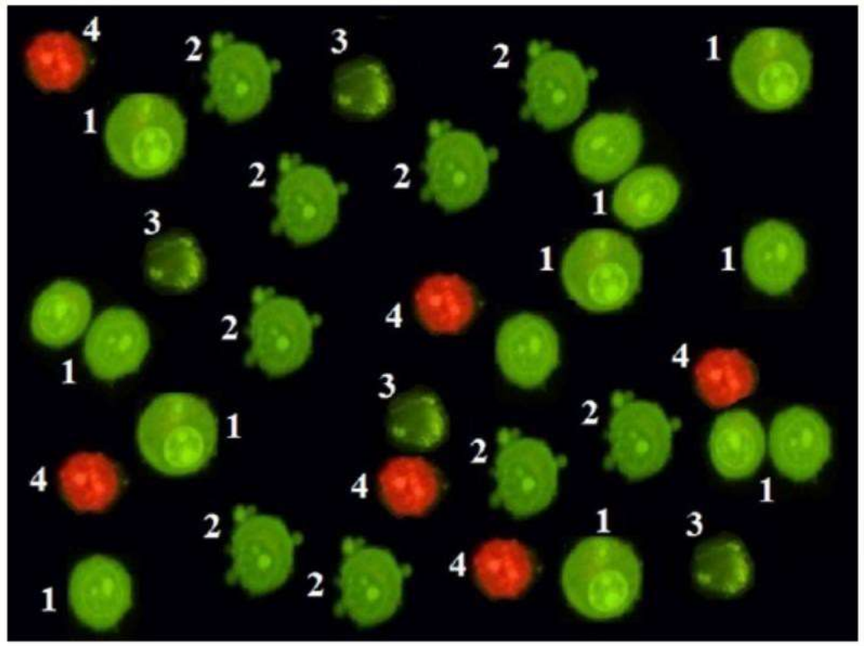
ImaChek Use Case: VI

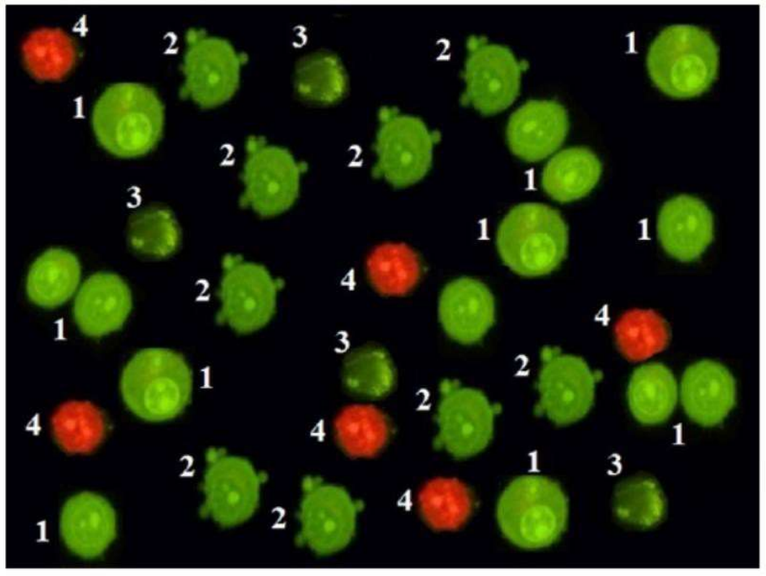
Duplicação de Imagem (dentro do mesmo paper)



ImaChek Use Case: VI

Duplicação de Imagem (dentro do mesmo paper)

Original Image

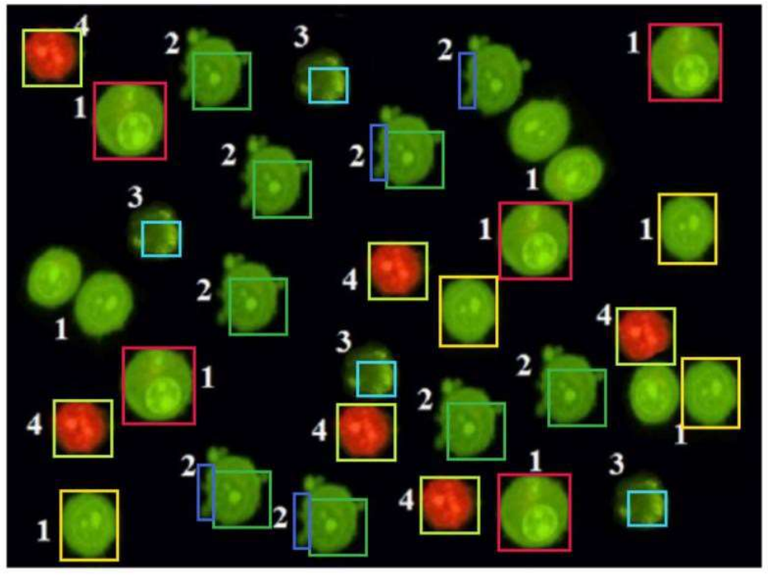


Resolution: 829 * 624

High Similarity

Within Record

Processed Image



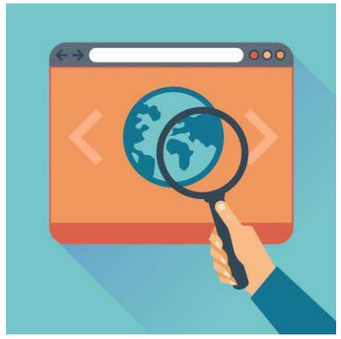
Resolution: 829 * 624

Detecção Automática de Duplicação

	Category	Description
Whole / Partial	Contrast/Brightness	Same image with modifications to brightness/contrast
	Filters	Application of filters (e.g., Gaussian blur)
	Flips	Same image flipped horizontally/vertically
	Rotations	Same image that has been rotated 90 or 270 degrees
	Scale	same image that has been scaled in size
	Simple	Same image
	Stretches	Same image with alterations to the aspect ratio

Requerimentos de Sistema

Supported Operating Systems	Windows 7, 8.1, and Windows 10 Mac® OS 10.5 or later
Internet Browser	Internet Explorer 11 or later (Windows only) Microsoft Edge Mozilla Firefox current version Safari 5.0 or later Chrome current version



File Format	png, tiff, jpg, jpeg, zip, pdf
File Size	The size of each image must be > 2 KB
Figure Resolution	▪ For color figures: 300 dpi. ▪ For black and white figures: 500 dpi ▪ Each image of an electrophoresis band must exceed 100*100 pixels

Honest Error	
Beautification	Continuation of the same intensity or sections that have been blacked or whited out
Excessive Compression	Excessive compression via conversion to JPEG
Deliberate	
Cut & Paste	Insertion of images taken from other sources
Partial Filter	Partially processed images (e.g. Gaussian blur)
Filling	Continuous background noise that is white, black or grey, insertion of a box

Último update do ImaChek