IDENTIFICATION DES ANTICORPS ANTINUCLEOLAIRE PAR IMMUNOFLUORESCENCE SUR CELLULES HEp2

René Louis Humbel

ANTICORPS ANTI-NUCLEOLAIRES

Les anticorps anti-nucléolaires réagissent sélectivement avec des structures nucléolaires. Ils sont généralement associés à la sclérodermie systémique mais sont aussi détectables chez un petit nombre de patients atteints d'autres maladies auto-immunes et des carcinomes. La recherche et l'identification de ces anticorps sont des éléments importants pour le diagnostic et la classification de ces maladies.

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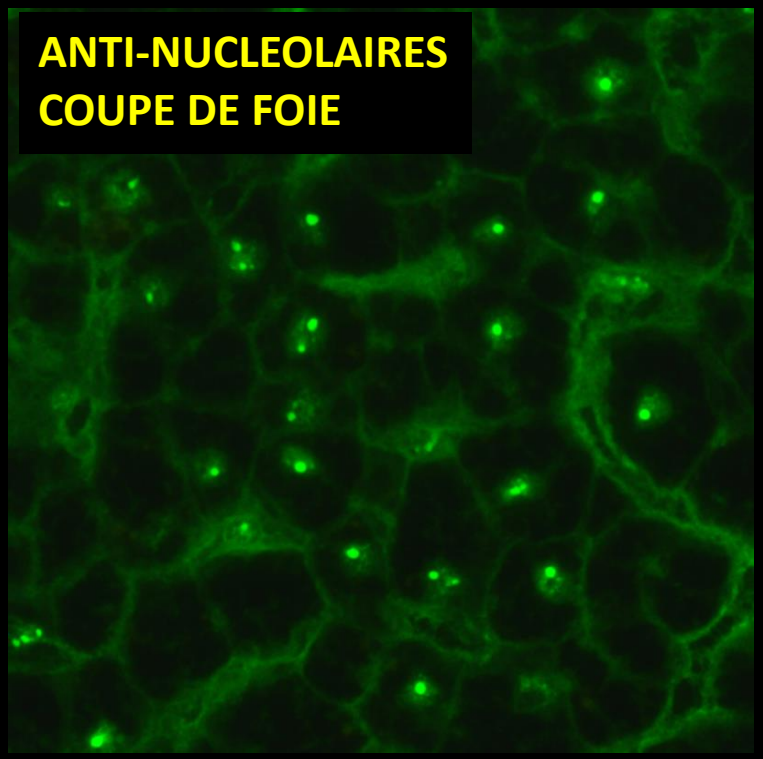
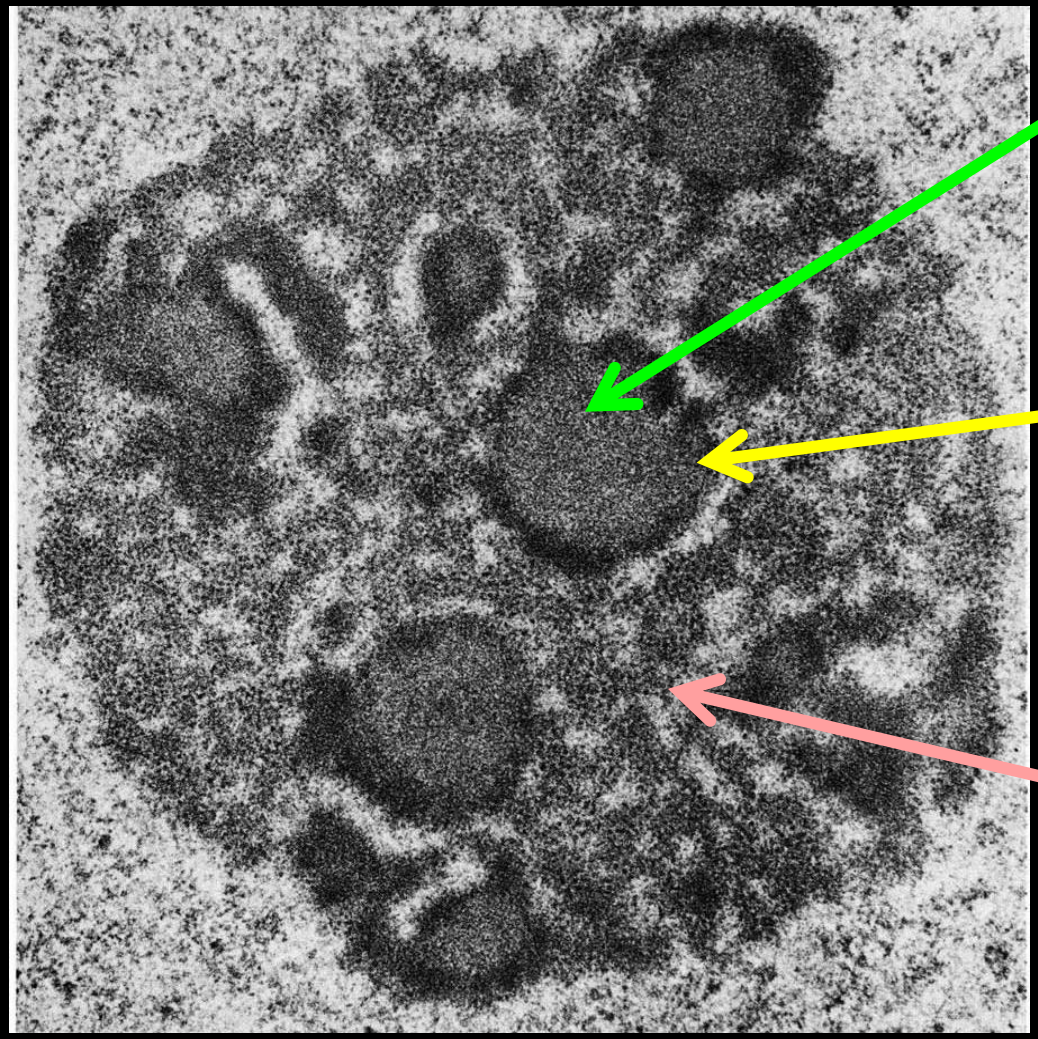
Le nucléole est une structure sphérique située dans le noyau cellulaire. Habituellement unique dans les cellules au repos il est présent en plusieurs exemplaires en fonction du type de cellule et de ses activités. La production de ribosomes commence à la fin de la mitose, augmente pendant la phase G1 et est maximale en G2. Ainsi, le noyau des cellules Hep2, cellules très prolifératives, contient de 1 à 5 nucléoles.



STRUCTURE DU NUCLEOLE



CENTRE FIBRILLAIRE

CONSTITUANT FIBRILLAIRE DENSE

CONSTITUANT GRANULAIRE

Microscopie Electronique

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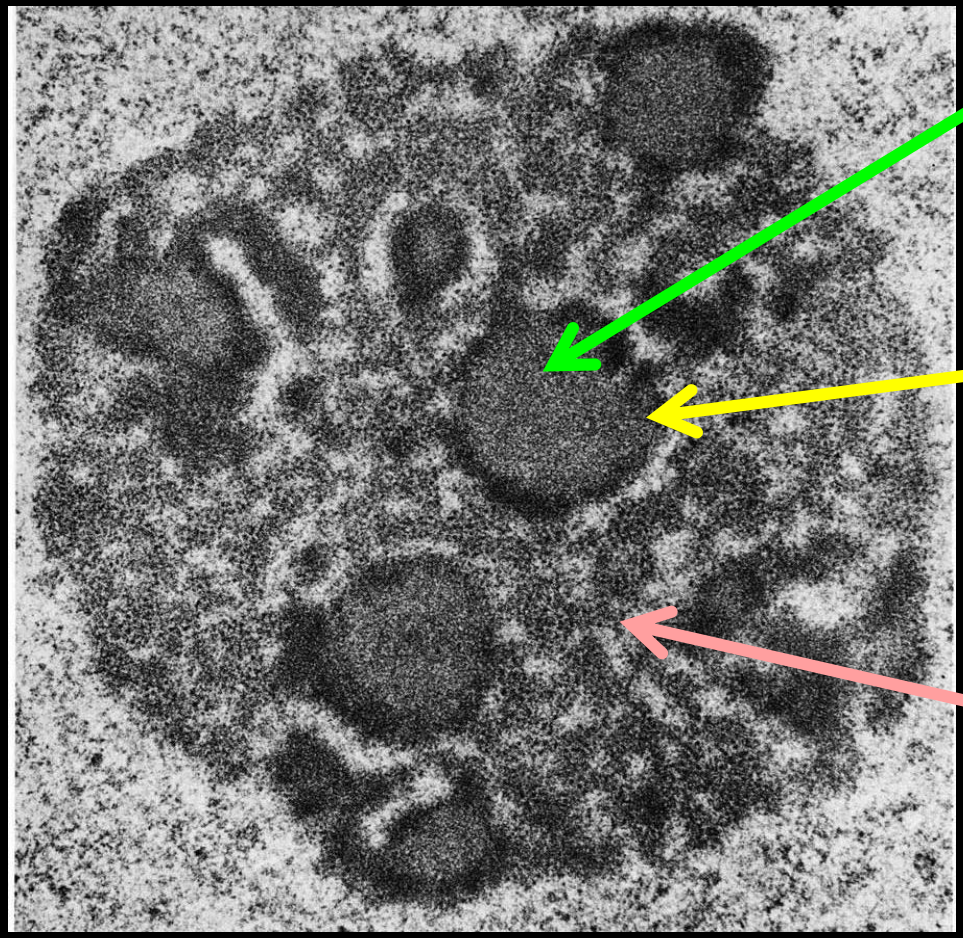
NUCLEOLE : BIOGENESE DES RIBOSOMES

Le nucléole est le lieu de synthèse des ribosomes précurseurs des protéines. Il est constitué des trois compartiments fonctionnels :



CENTRE FIBRILLAIRE

TRANSCRIPTION DES GENES RIBOSOMIQUES

NOR

CONSTITUANT FIBRILLAIRE DENSE

MATURATION DE l'ARN RIBOSOMIQUE

CONSTITUANT GRANULAIRE

ASSEMBLAGE DES PRE-RIBOSOMES

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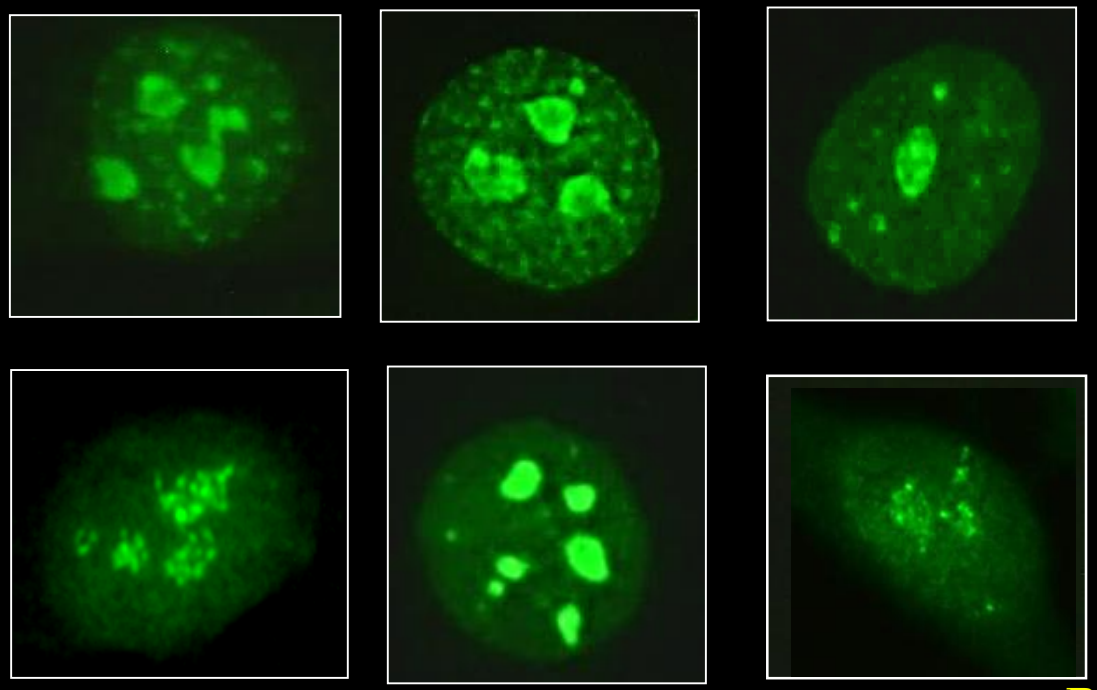
ANTICORPS ANTI-NUCLEOLAIRES IMMUNOFLUORESCENCE

Les anticorps anti-nucléolaires sont détectés lors de la recherche des anticorps anti-nucléaires par immunofluorescence sur les cellules Hep2. Différents aspects de fluorescence peuvent être observés en fonction des structures nucléolaires qui sont marquées par les anticorps.



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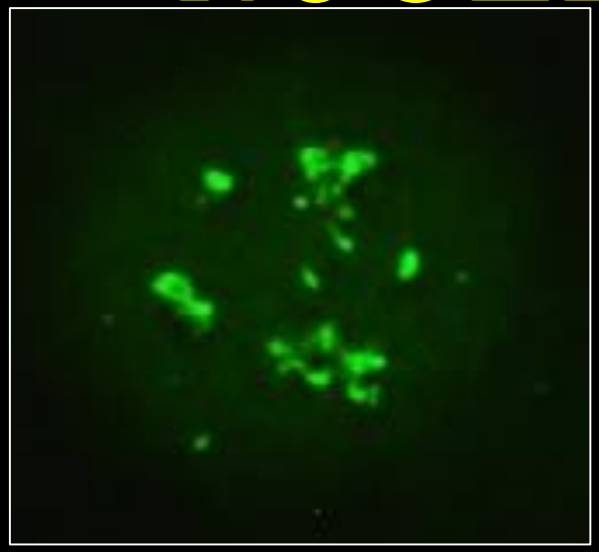
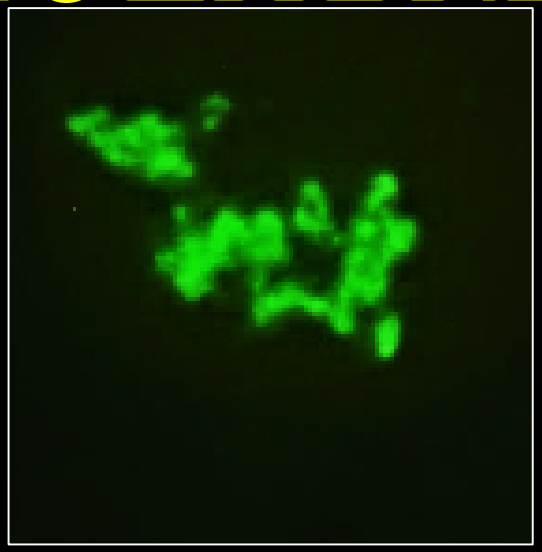
ANTICORPS ANTI-NUCLEOLAIRES



Centre Fibrillaire



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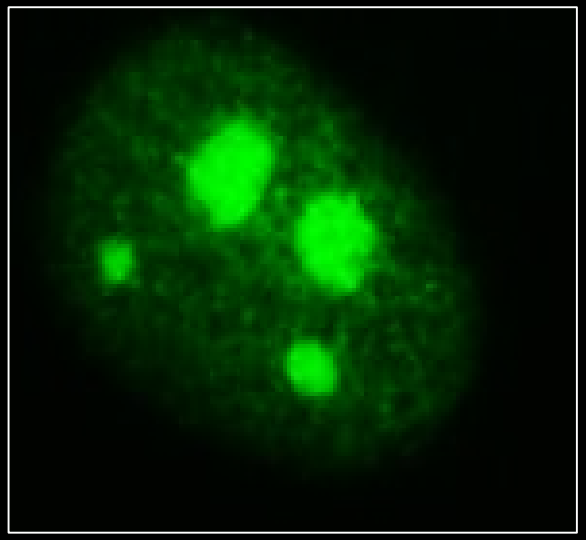

Constituant Granulaire

PONCTUE
PUNCTATE
AC10

GRANULAIRE
CLUMPY
AC9

HOMOGENE
HOMOGENEOUS
AC8

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MECANISMES DE LA BIOGENESE DES RIBOS

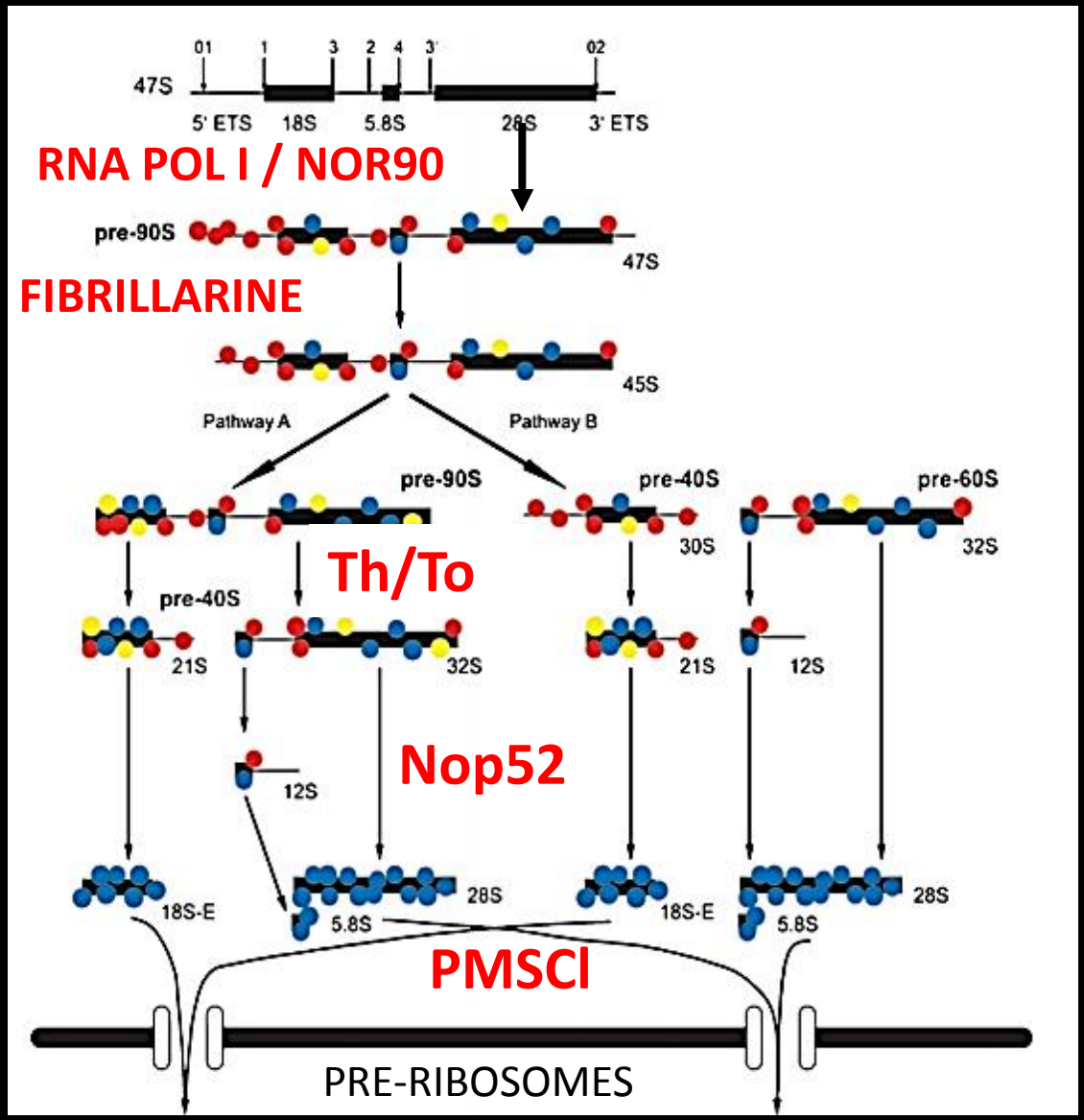
NUCLEOLE

CENTRE FIBRILLAIRE

CONSTITUANT FIBRILLAIRE DENSE

CONSTITUANT GRANULAIRE

Antigènes Cibles des Anticorps Anti-Nucléolaires



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ANTICORPS ANTI-NUCLEOLAIRES

Centre Fibrillaire | Constituant Fibrillaire | Constituant Granulaire Dense

RNA POL I	FIBRILLARINE	PMSCl
NOR 90	Ki 67	Th/To
		Nop 52

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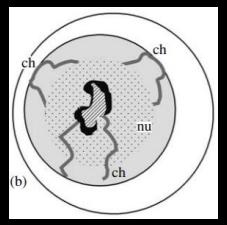
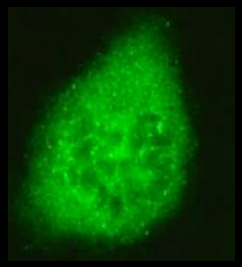
NUCLEOLE DURANT LA MITOSE

Le nucléole subit de profondes modifications durant la mitose. Dès le début de la prophase on assiste à son désassemblage. Alors que le complexe de l'ARN Polymérase reste fixé sur les NOR durant toutes les étapes de la mitose, les autres constituants nucléolaires sont dispersés et se regroupent à la surface des chromosomes mitotiques. A début de la télophase, certaines protéines se regroupent sous forme de petites granules, les corps pré-nucléolaires, qui vont former les nucléoles dans les cellules en fin de division.

PROPHASE





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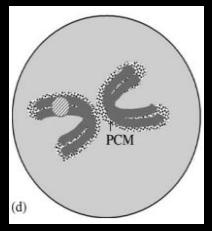

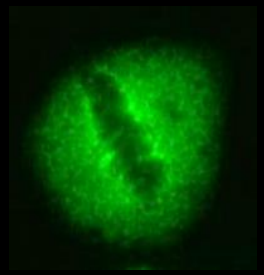

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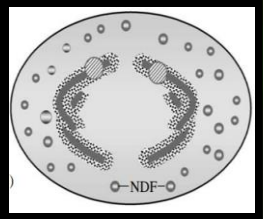

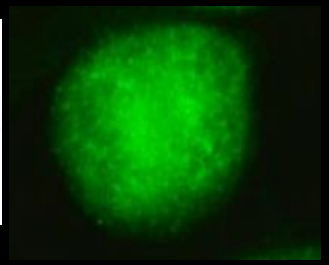

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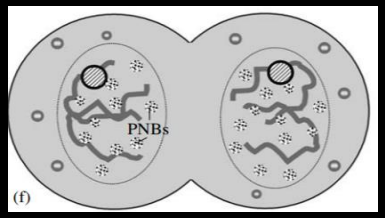

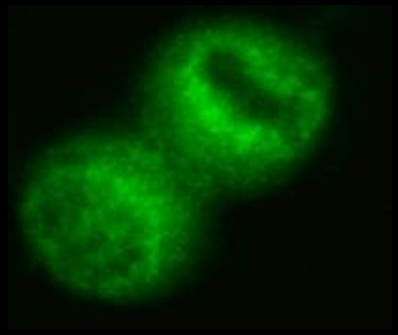

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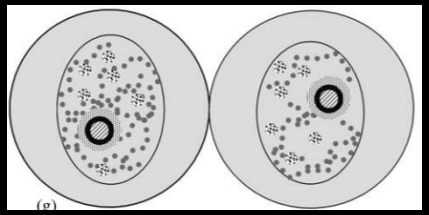

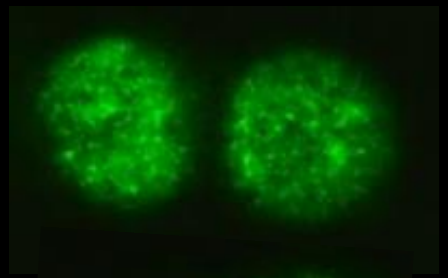

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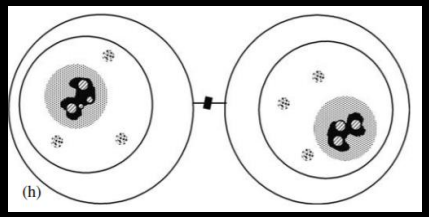

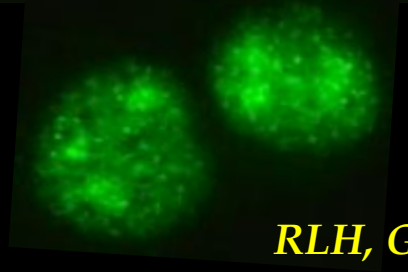

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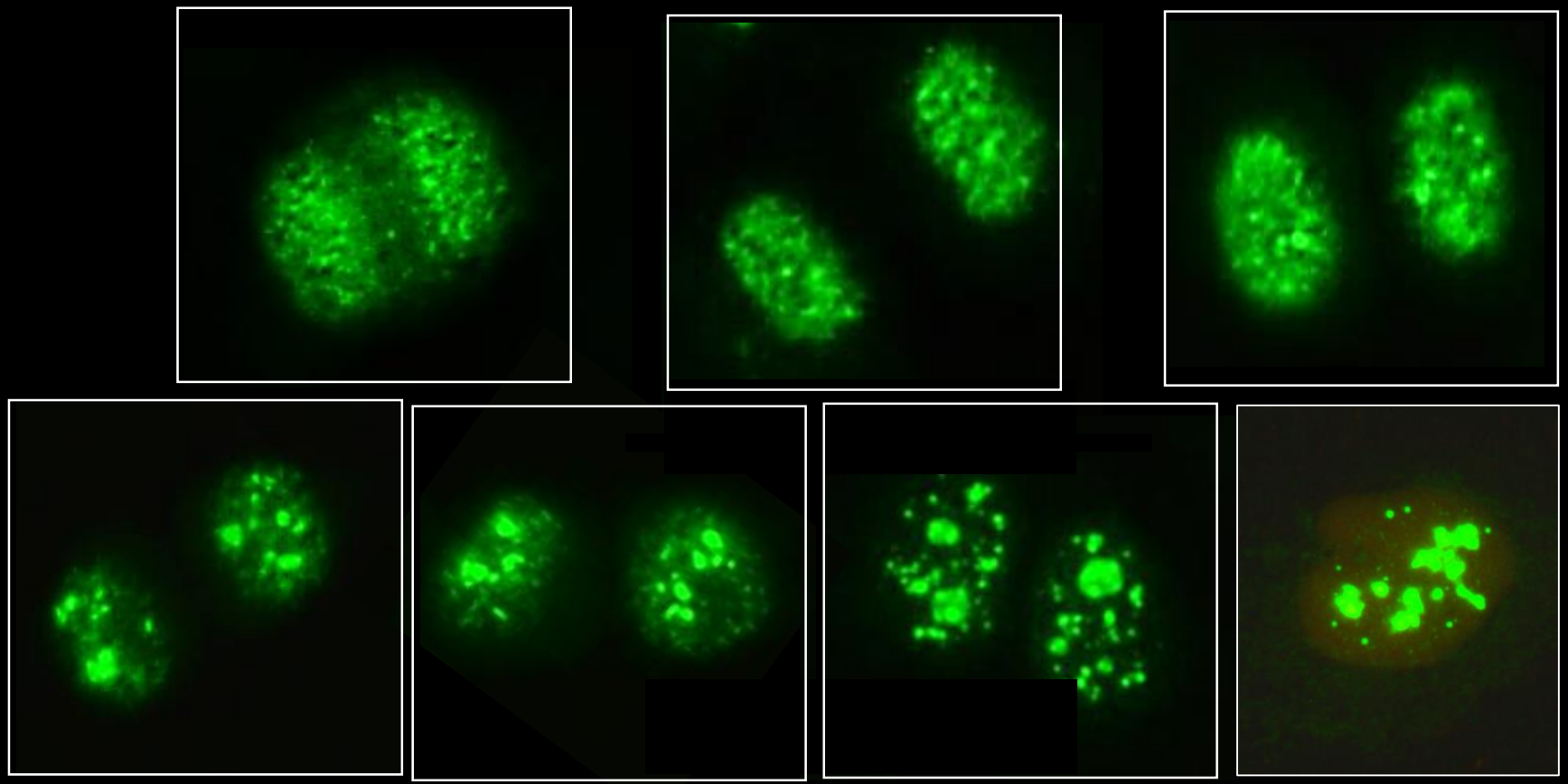
ASSEMBLAGE DU NUCLEOLE EN FIN DE MITOSE

Corps Pré-nucléolaires

Anti-Fibrillarine



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QUELQUES EXEMPLES

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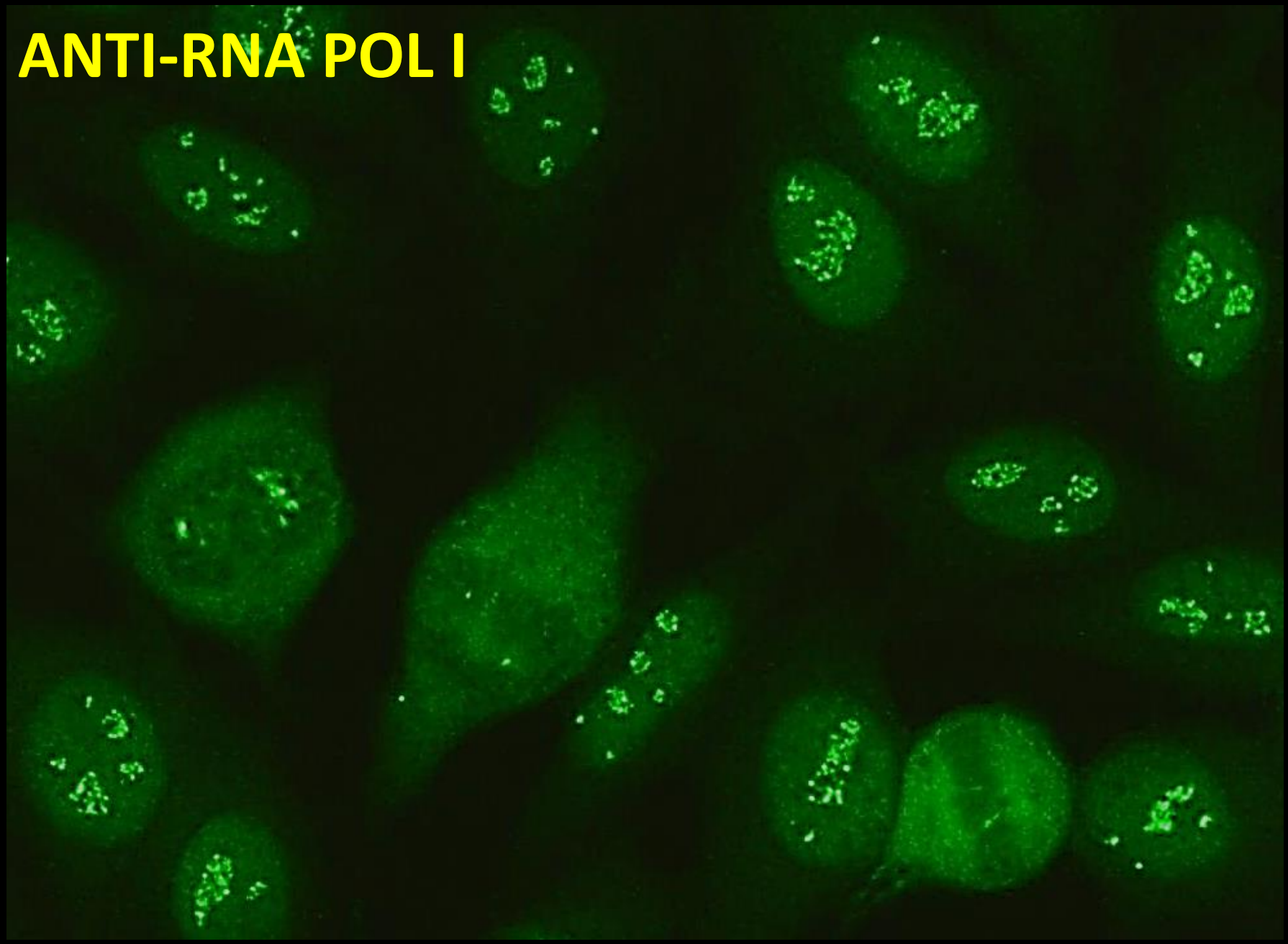

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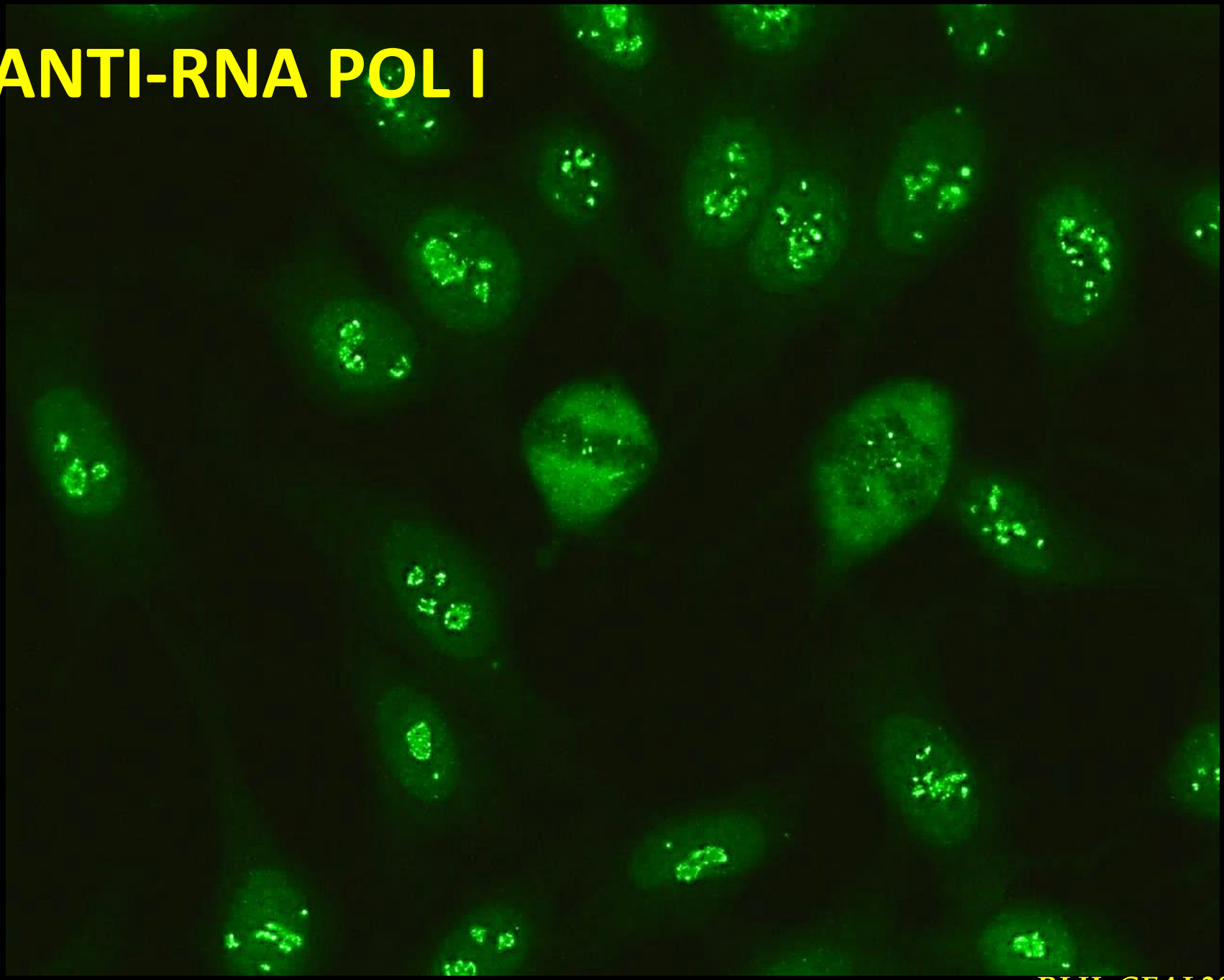

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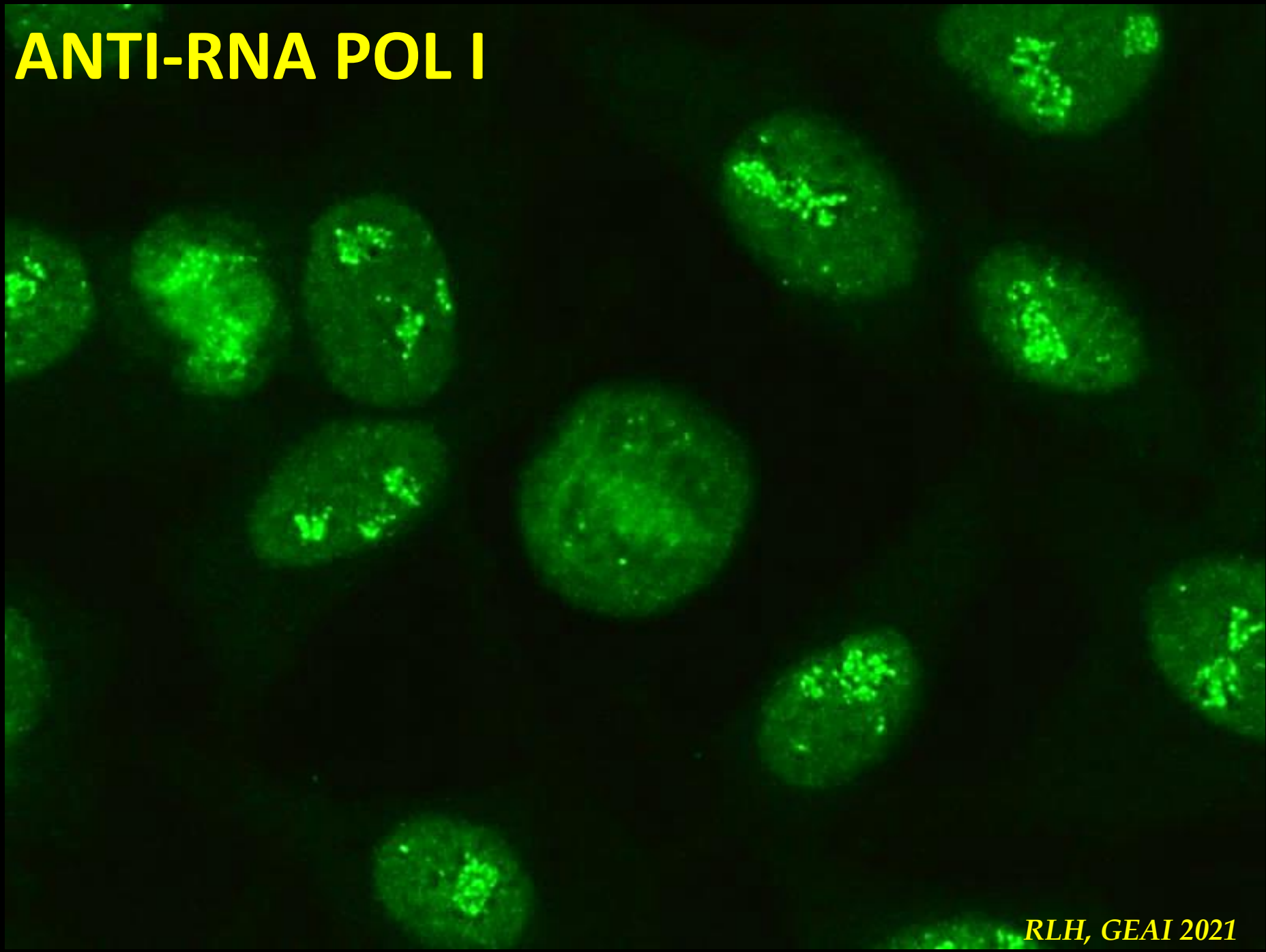

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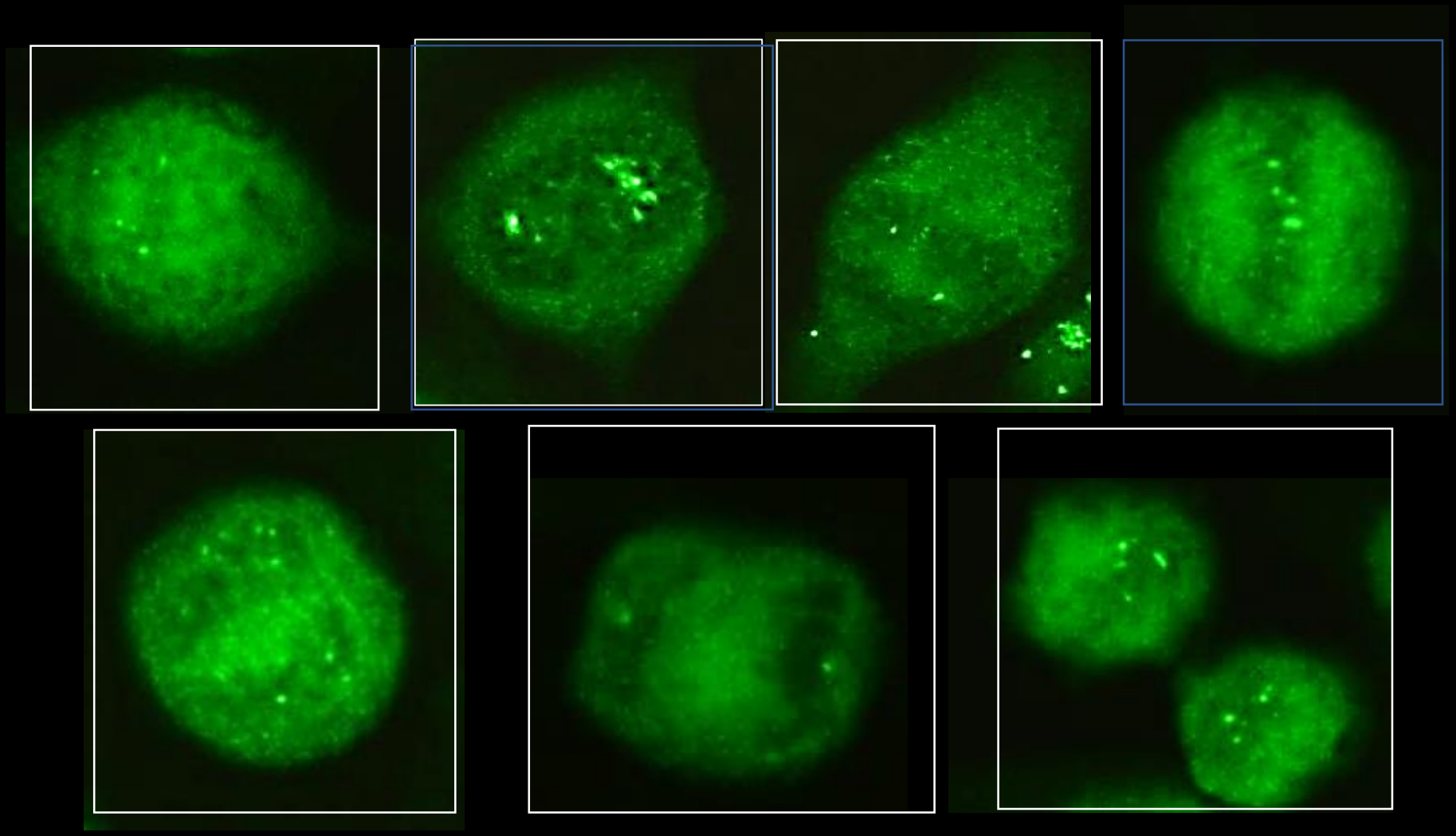

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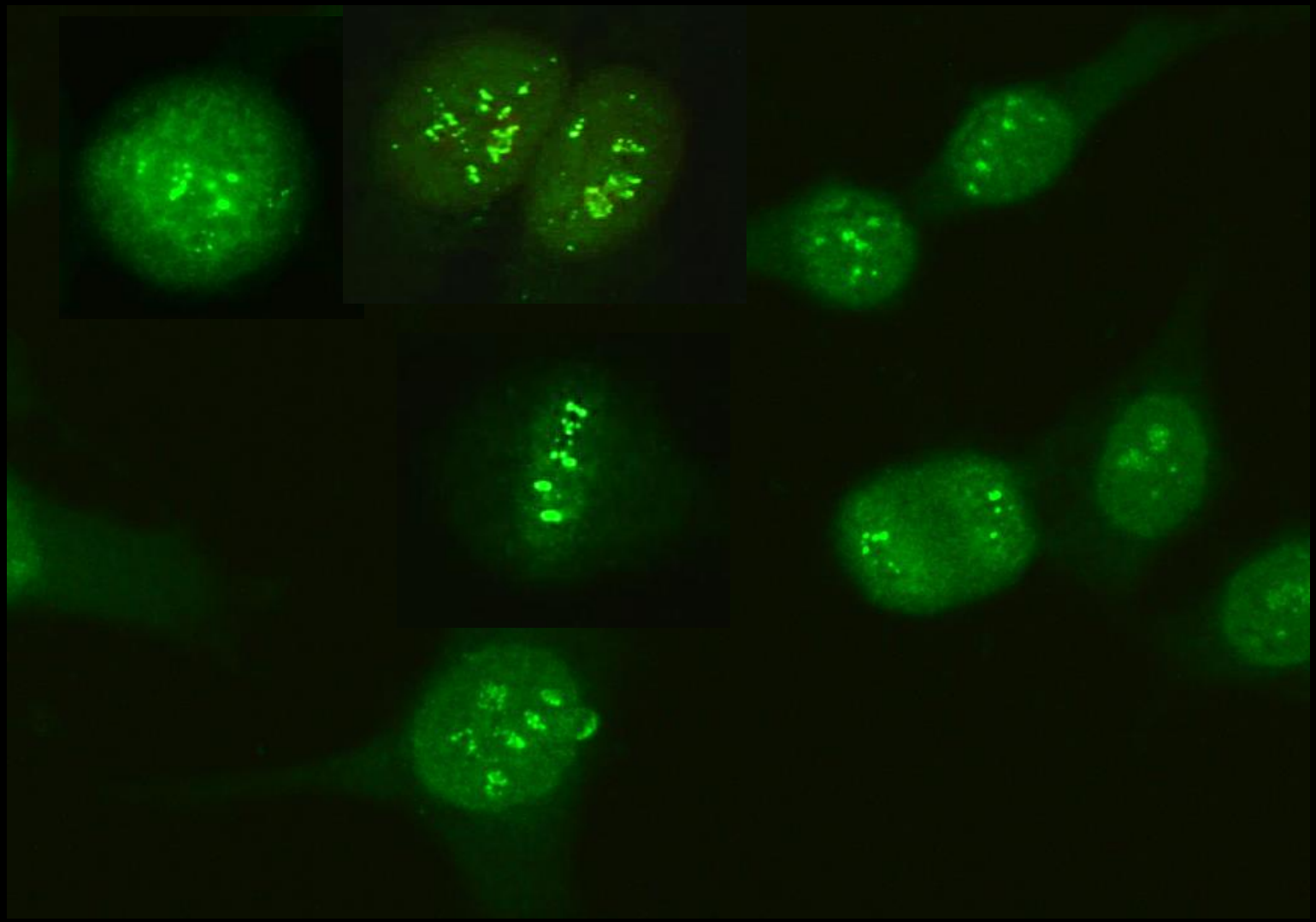

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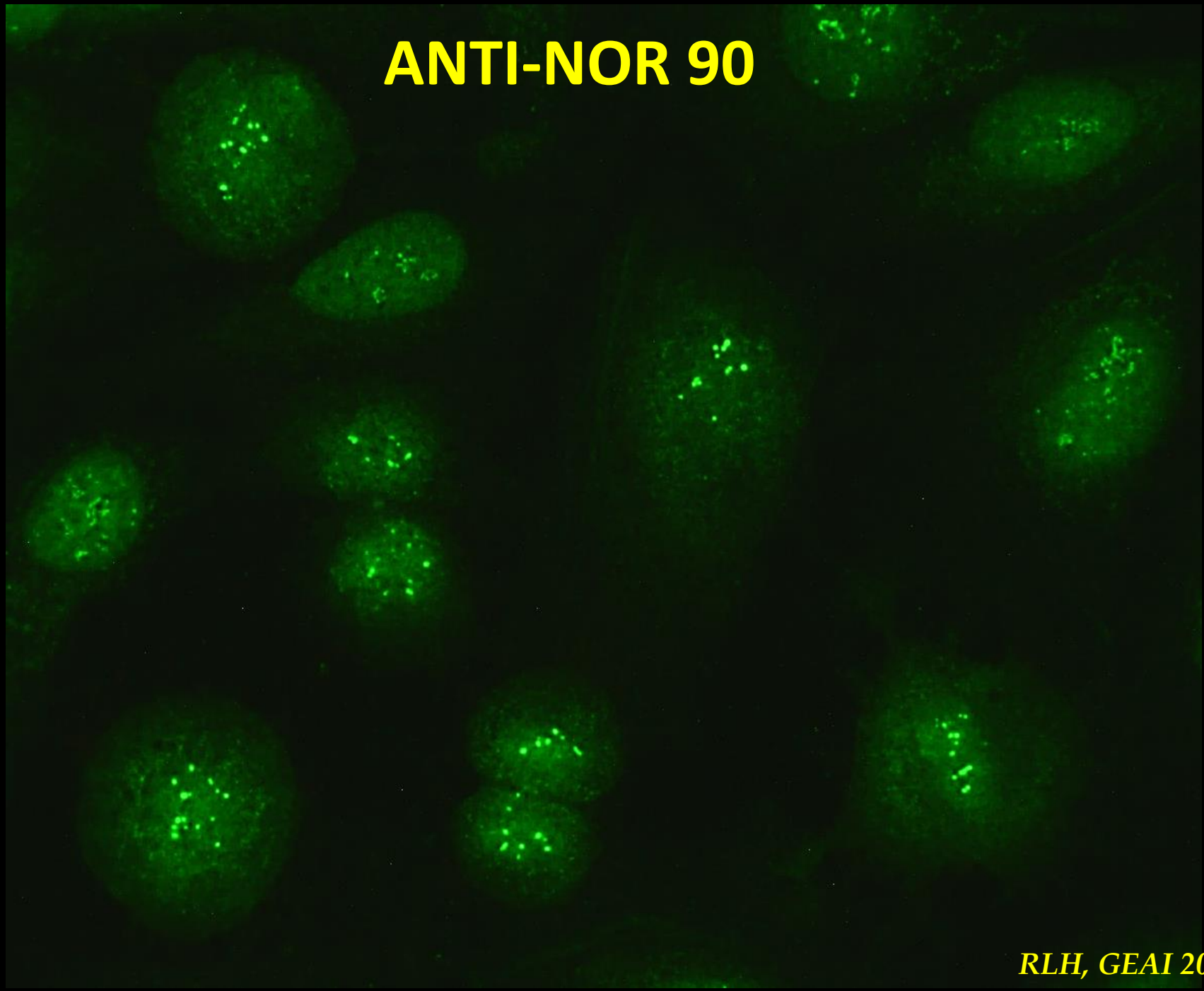
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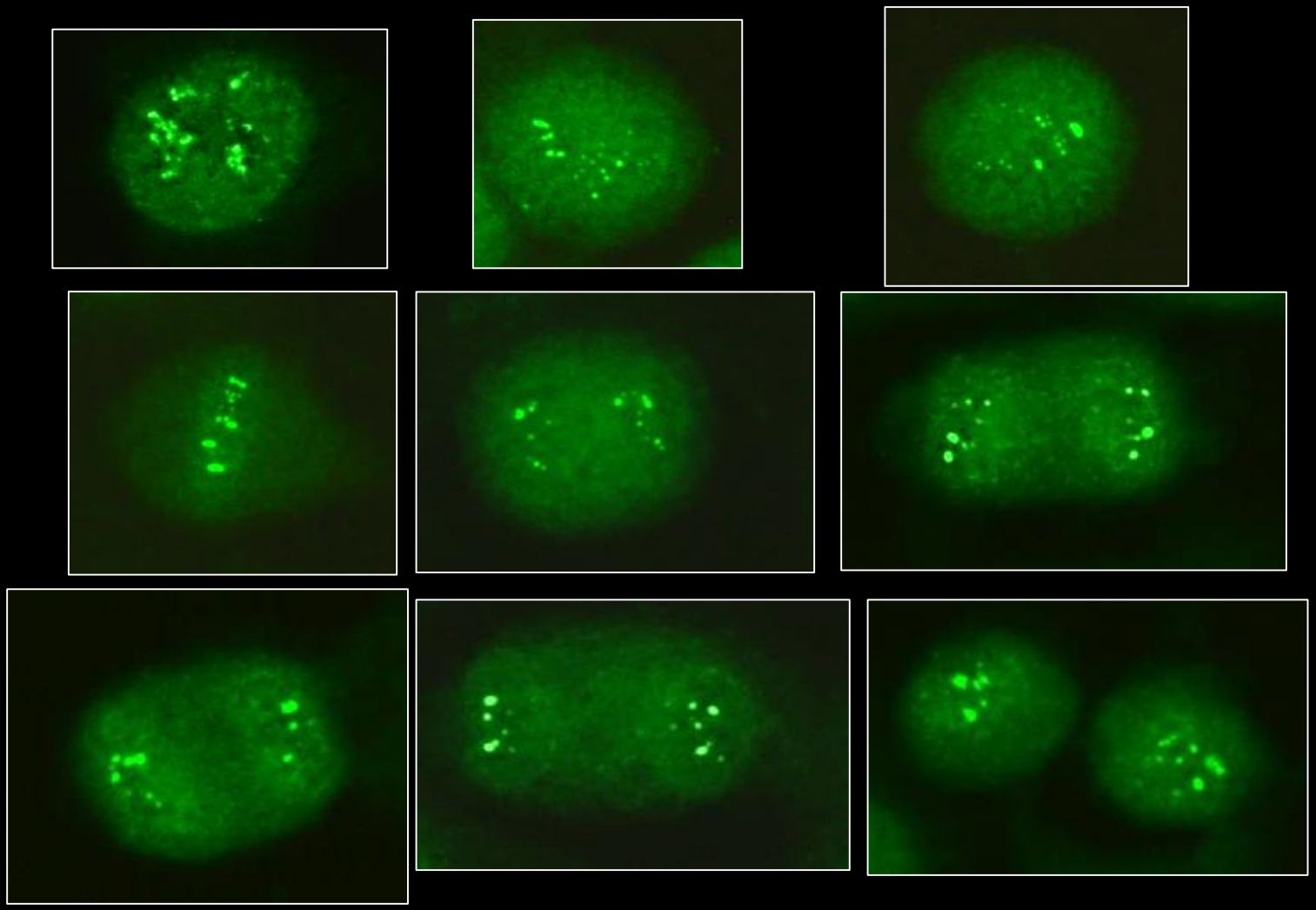
ANTI- NOR 90 MITOSES



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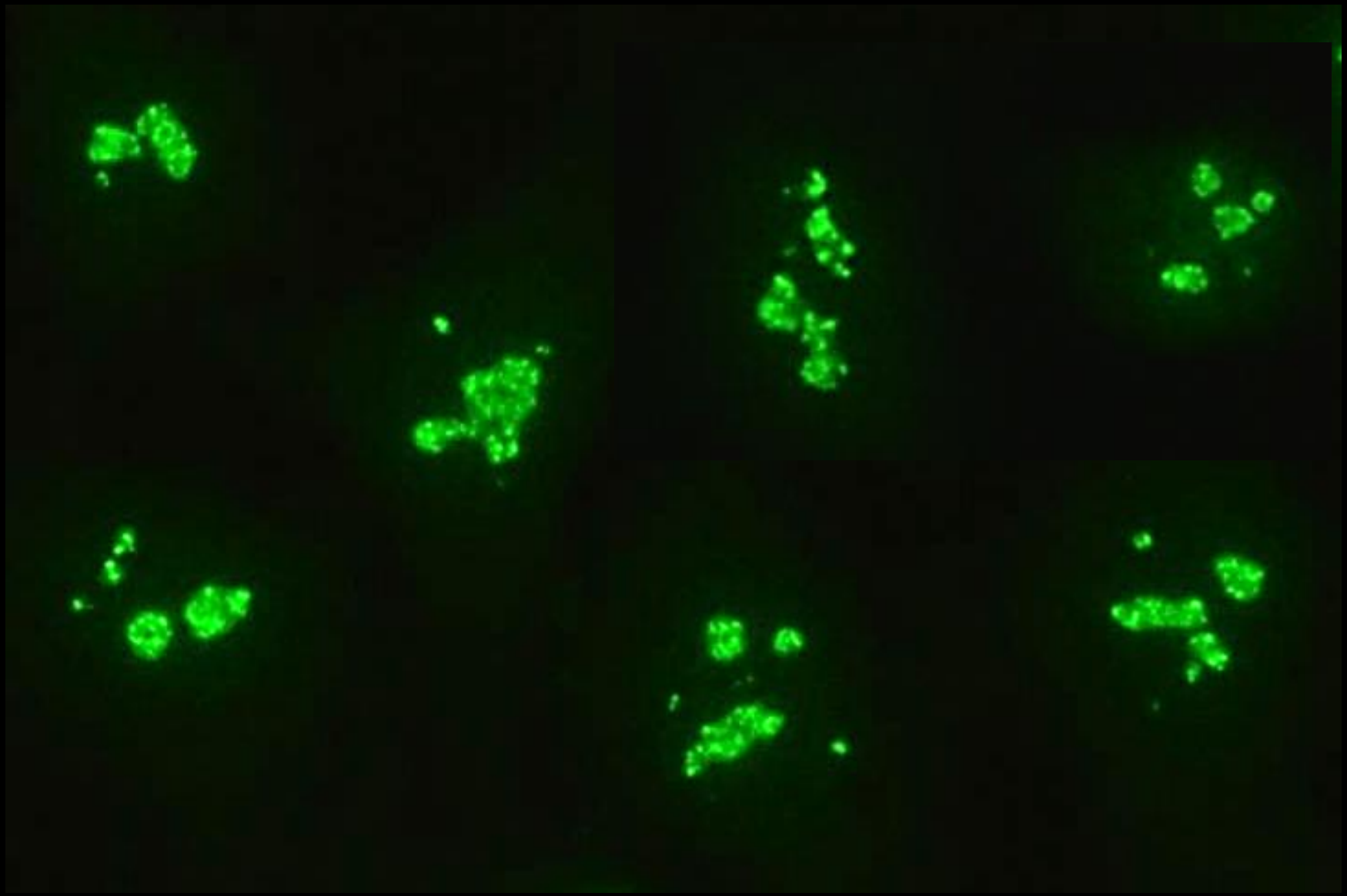

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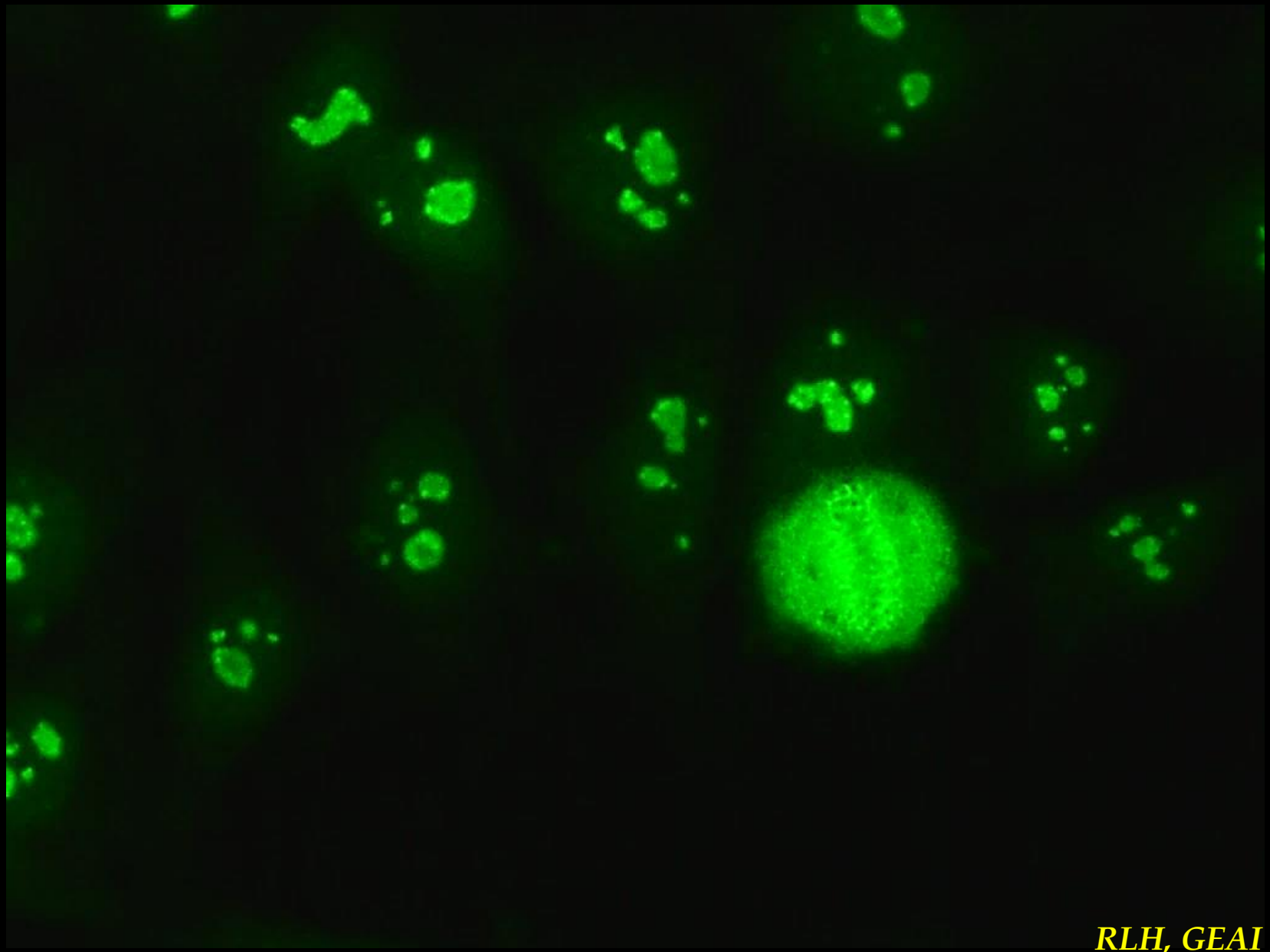

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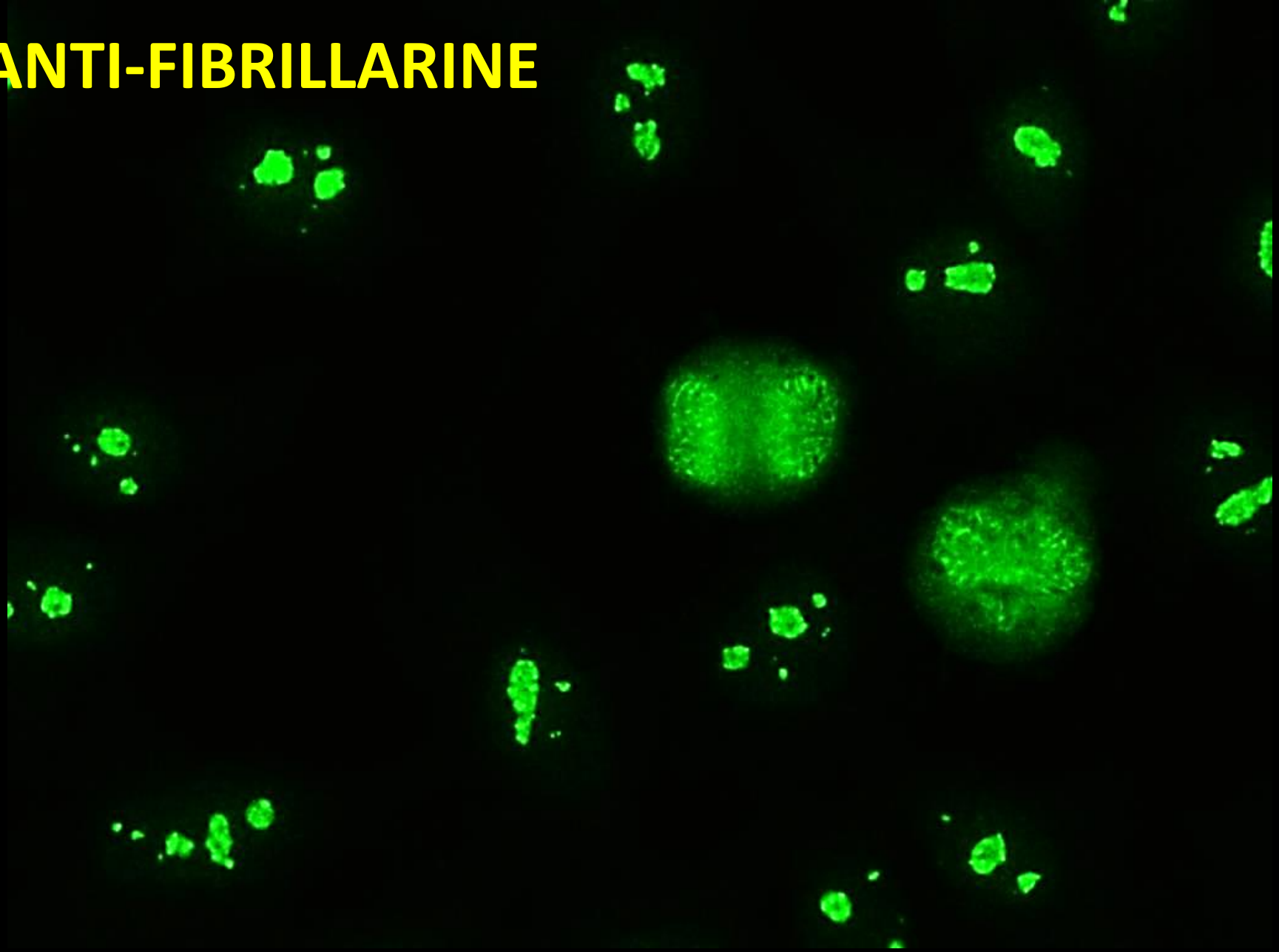

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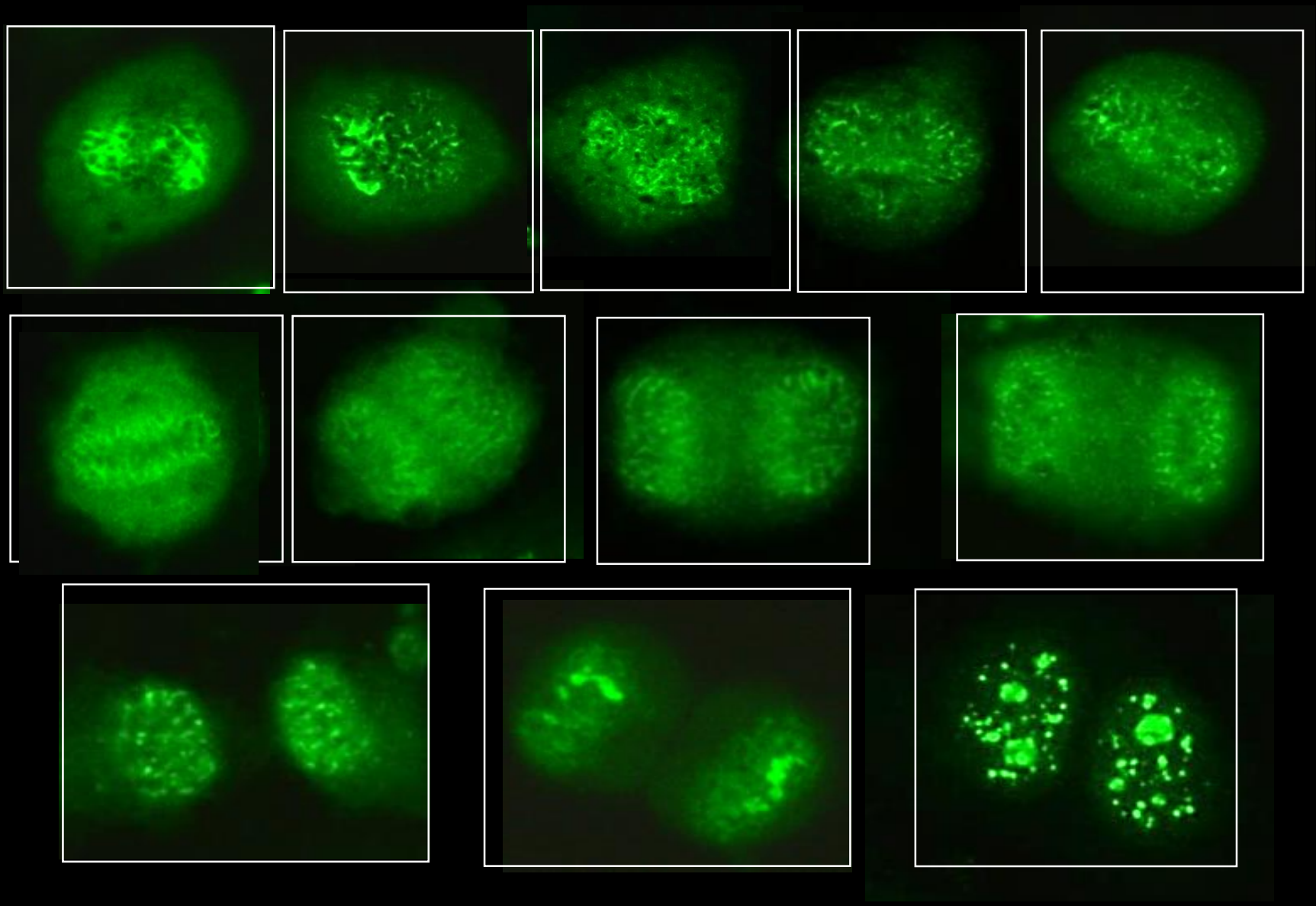

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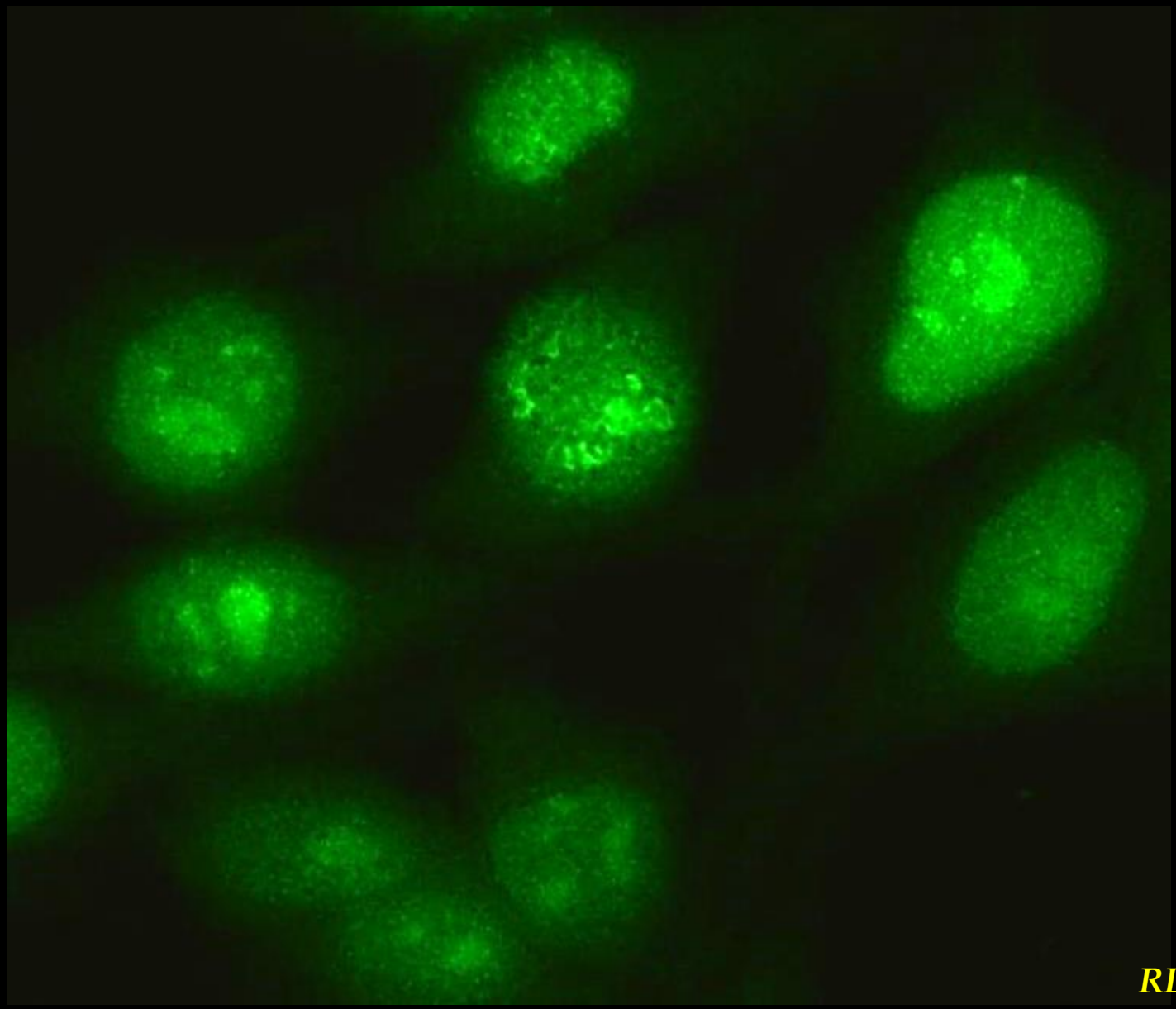

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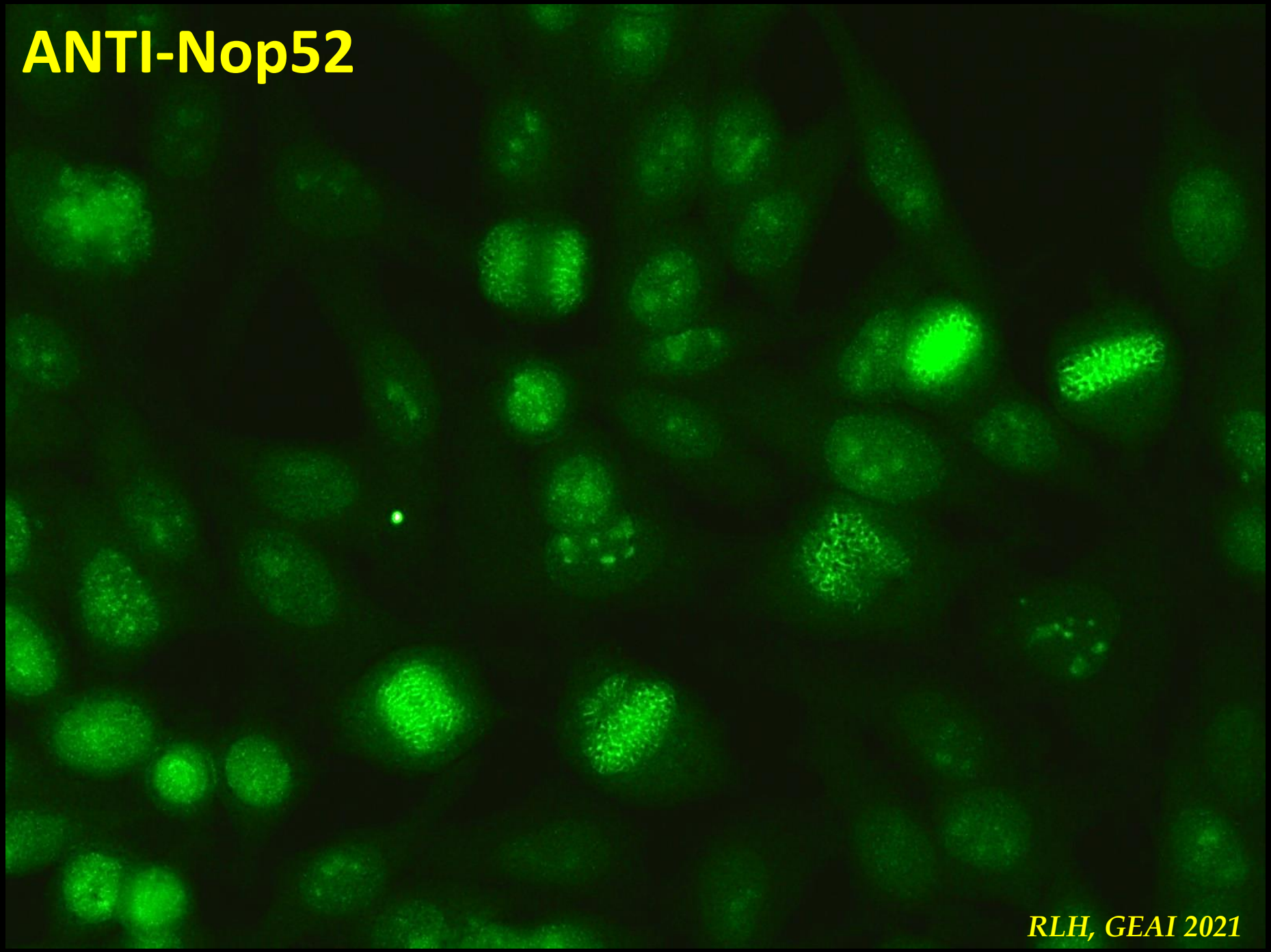
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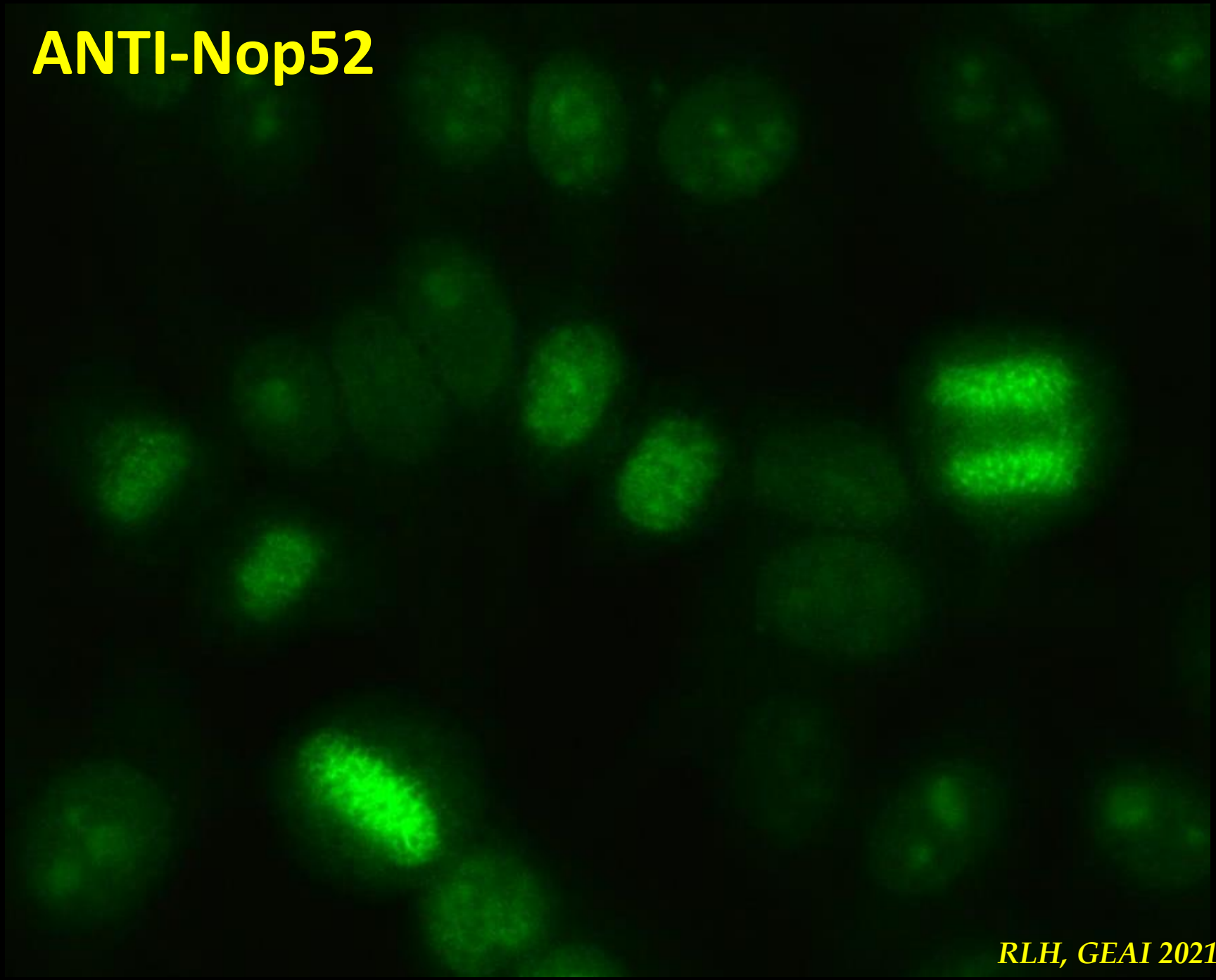
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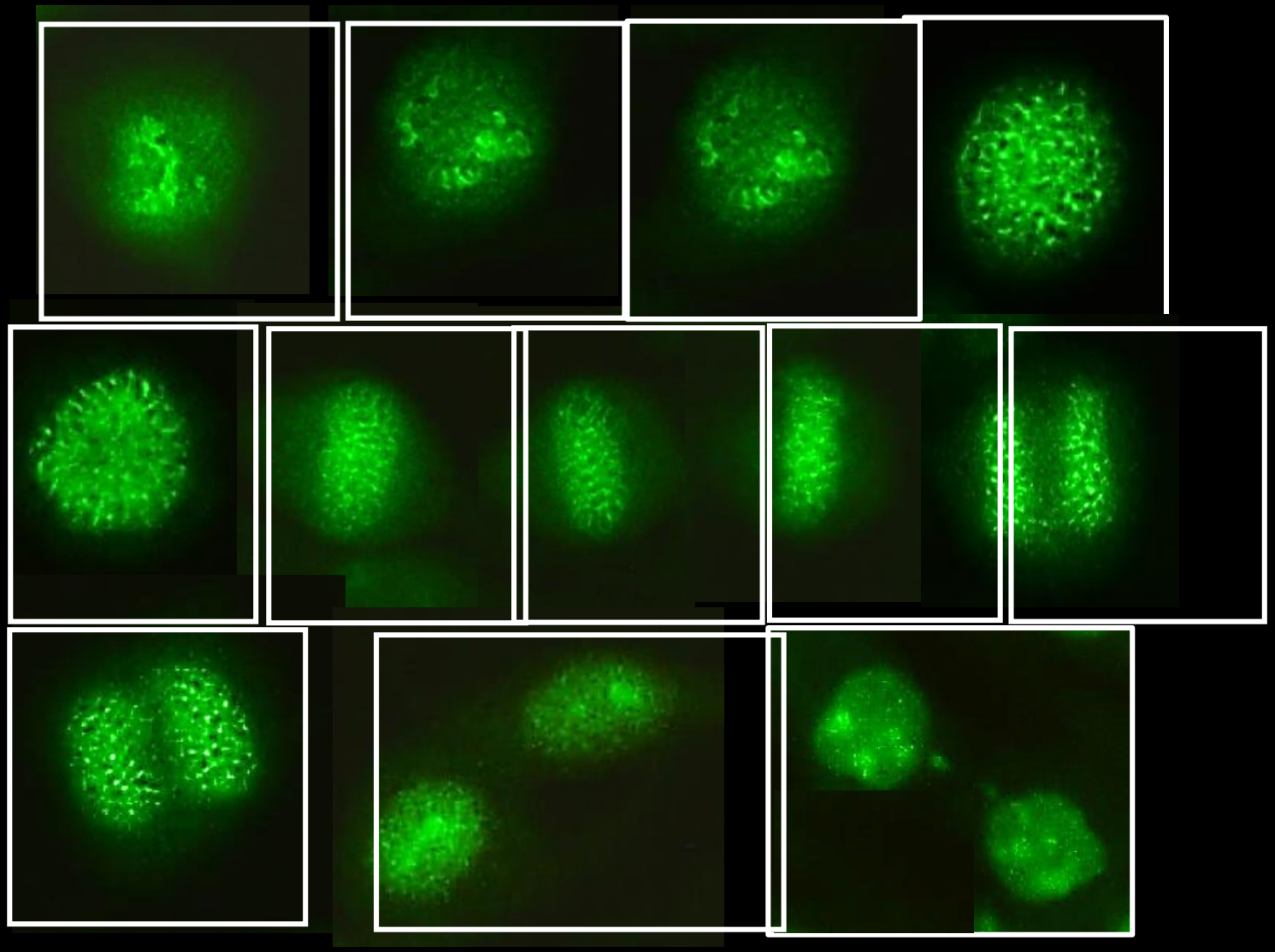

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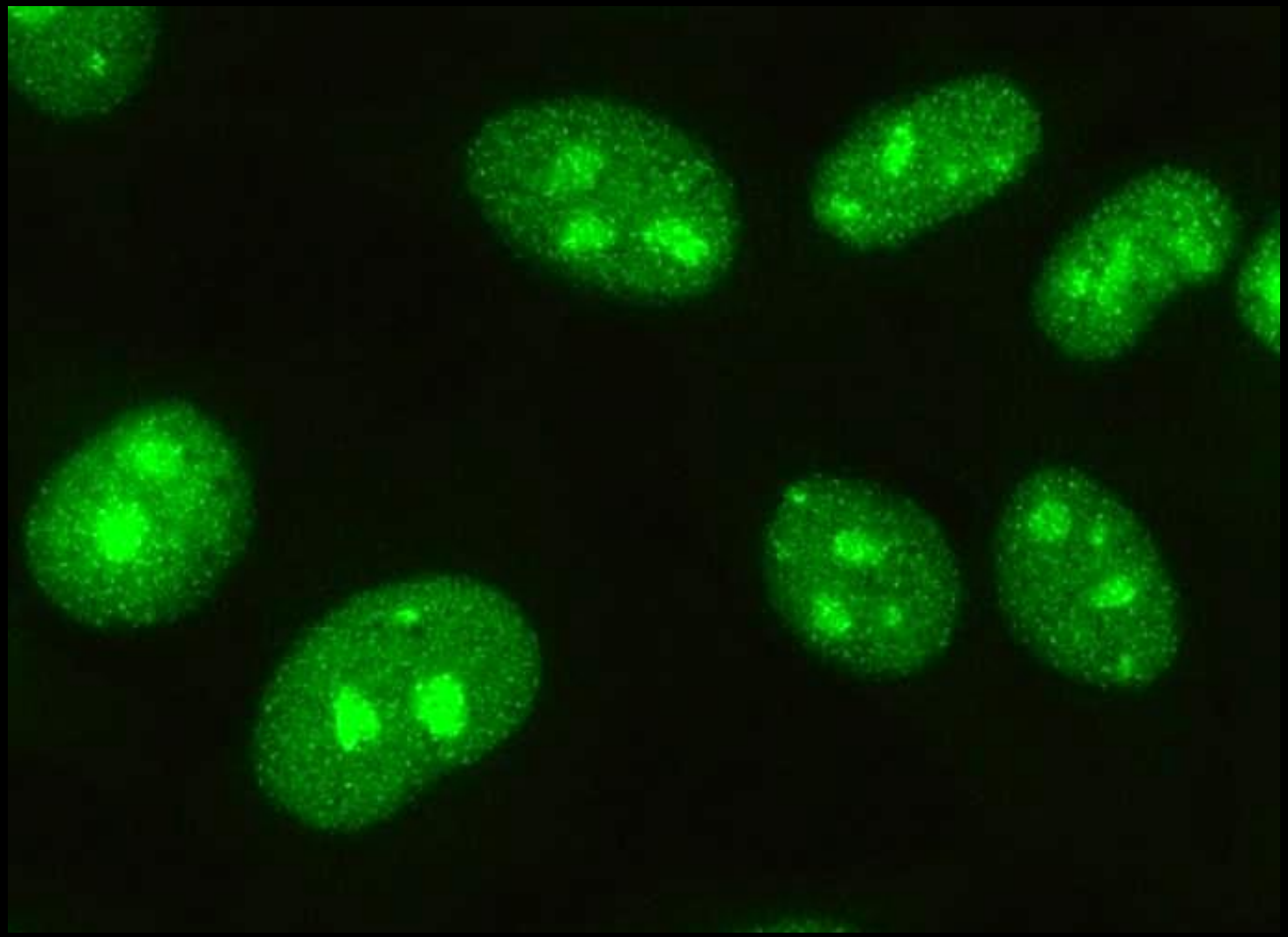

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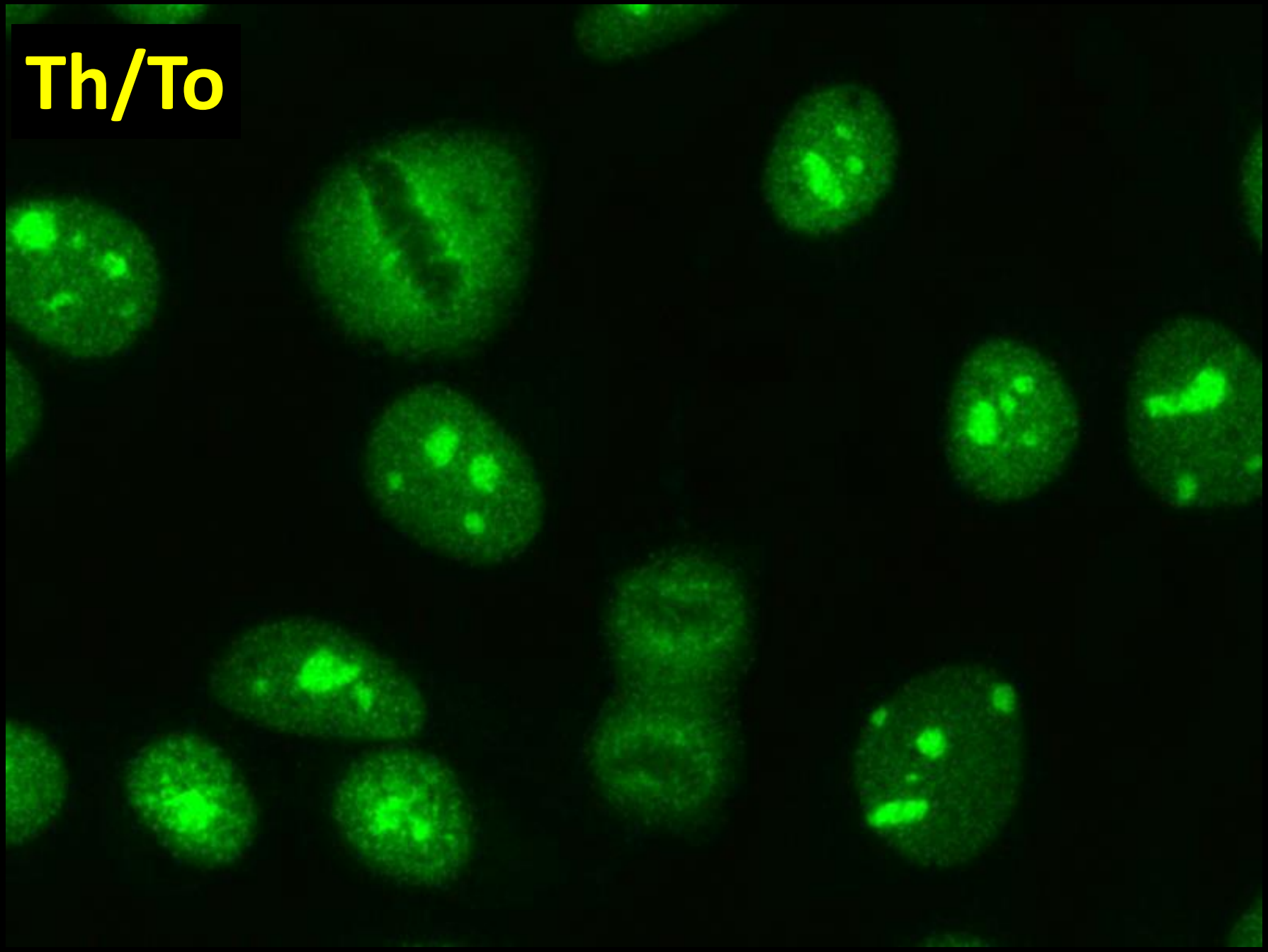

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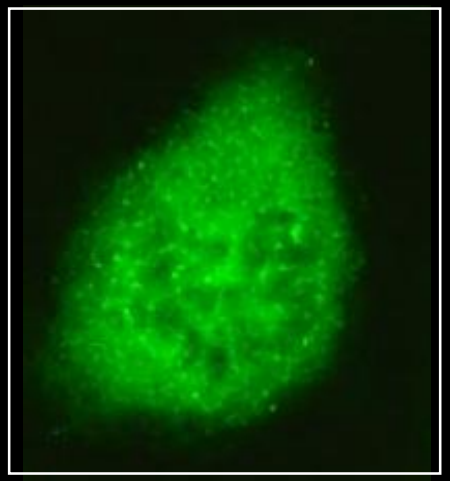
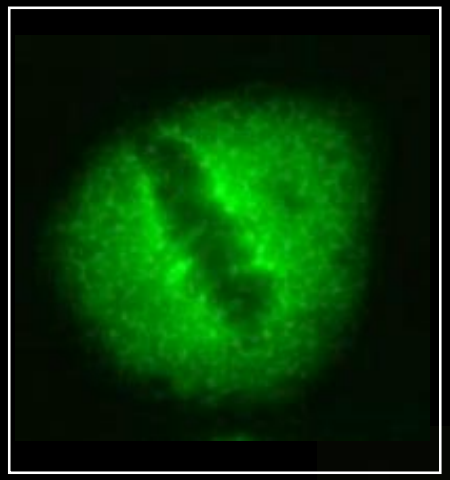
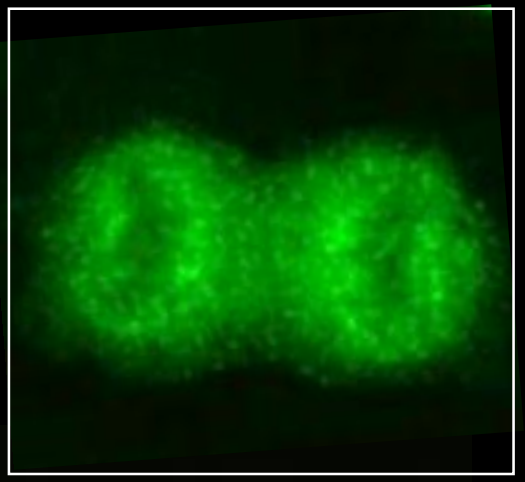
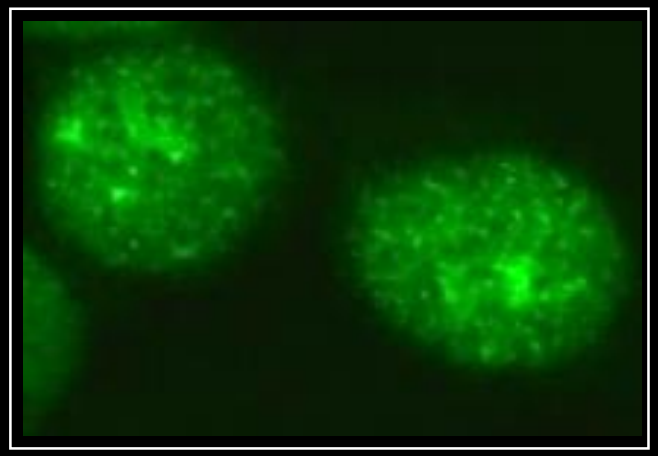
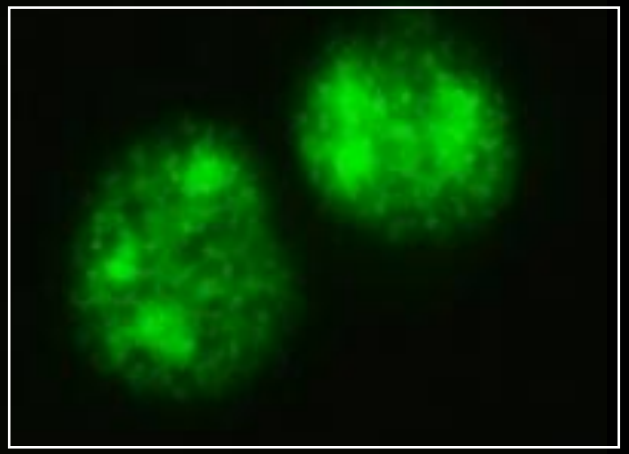

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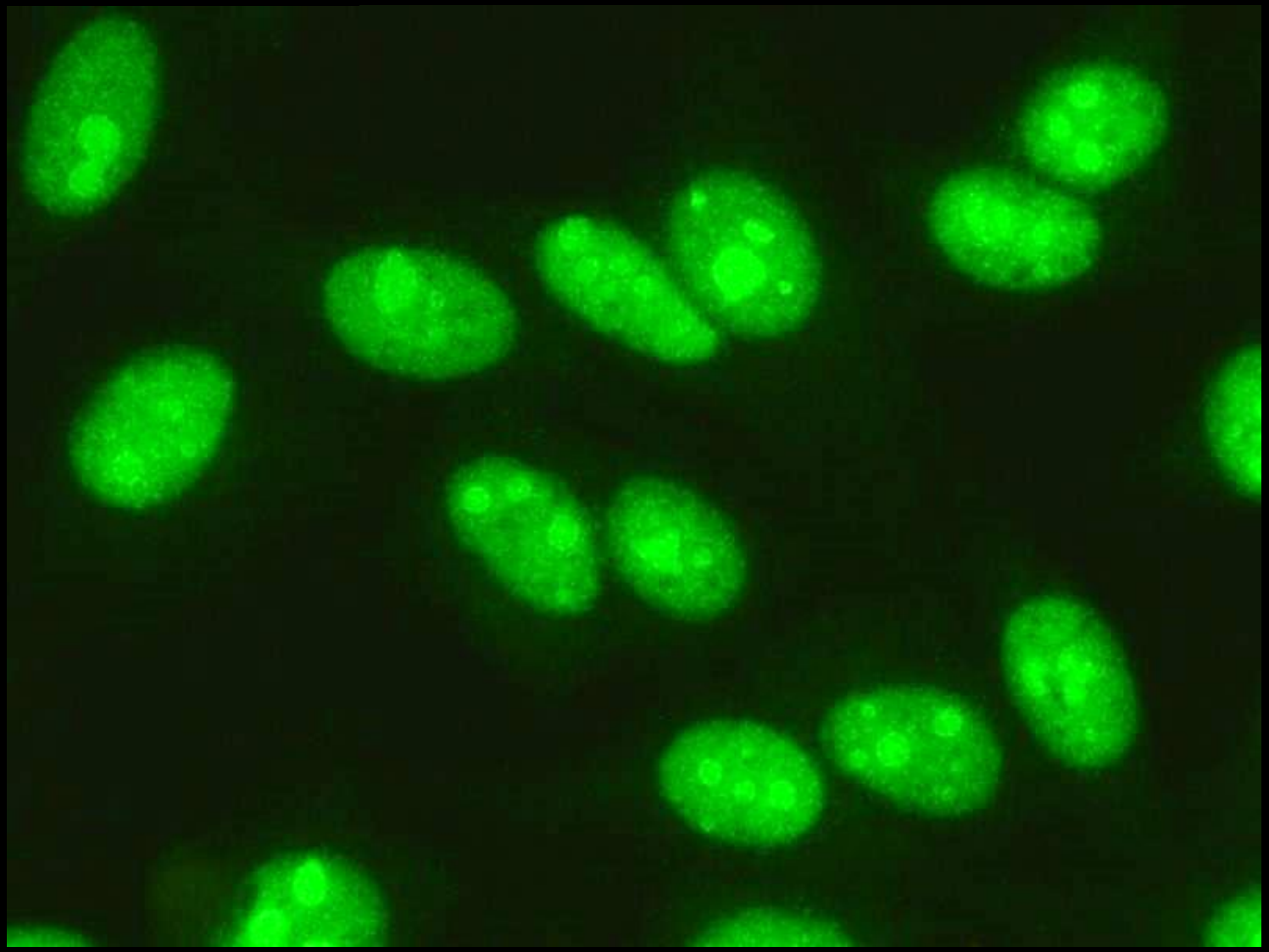

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PMScl
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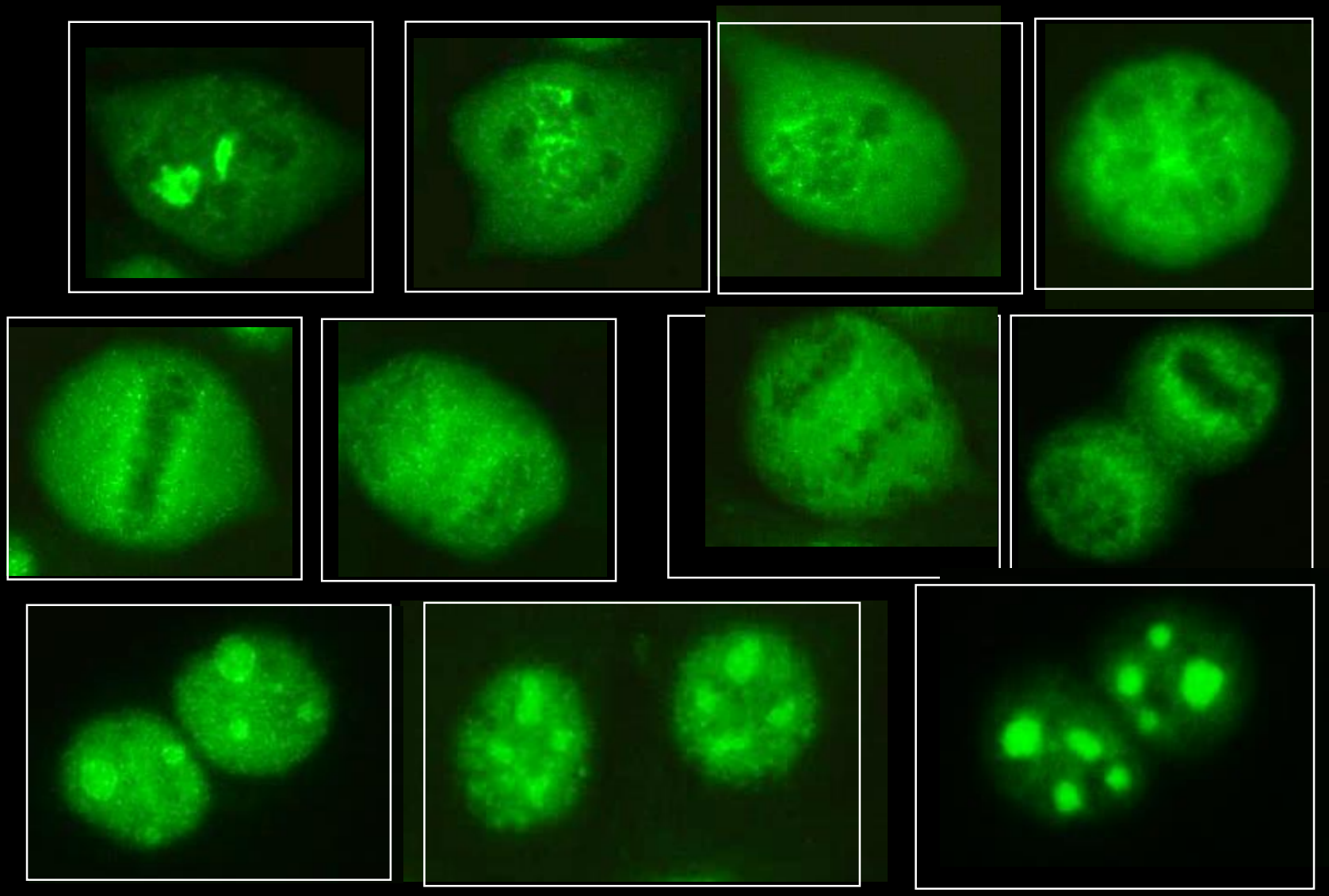
ANTI-PMScl MITOSES



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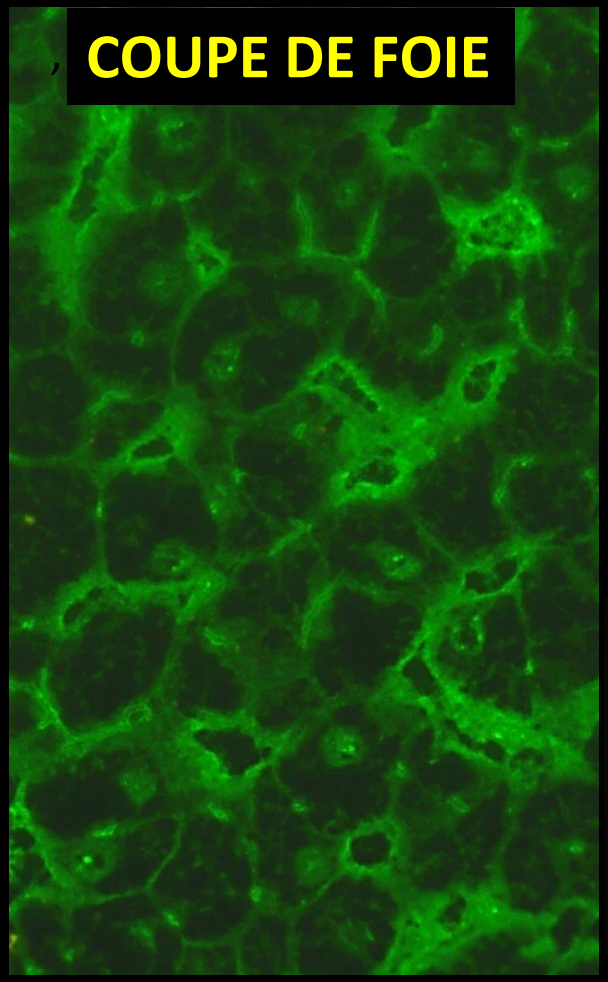
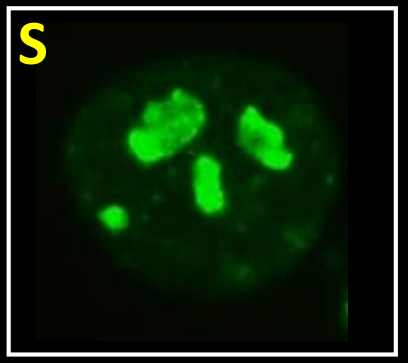
ANTICORPS ANTI-NUCLEOLAIRES
SPECIFIQUES DES CELLULES PROLIFERATIVES

ANTI-Ki-67



CELLULES HEp2



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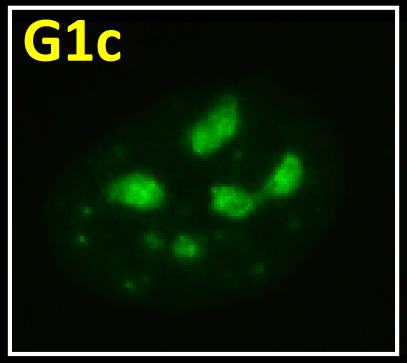

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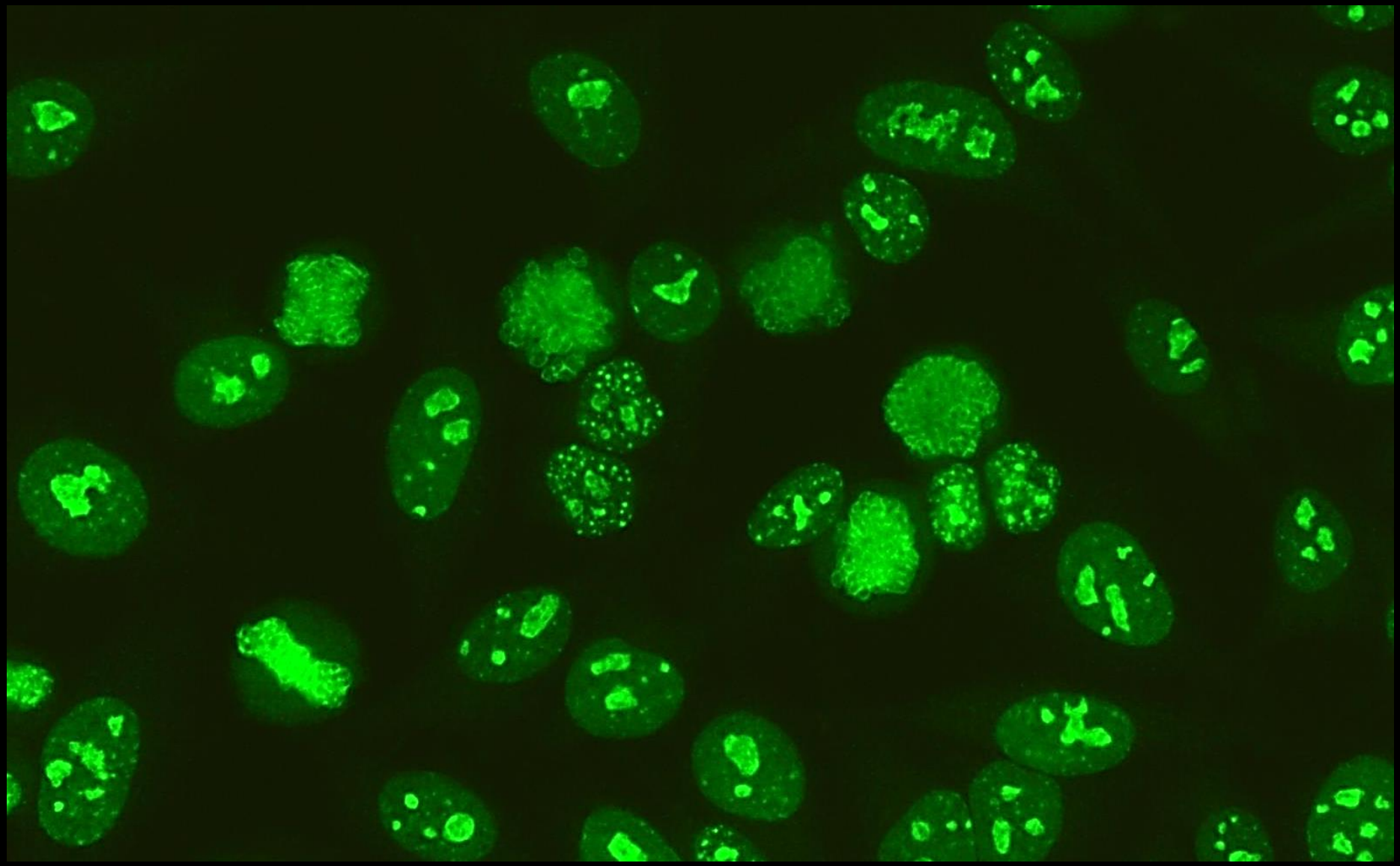

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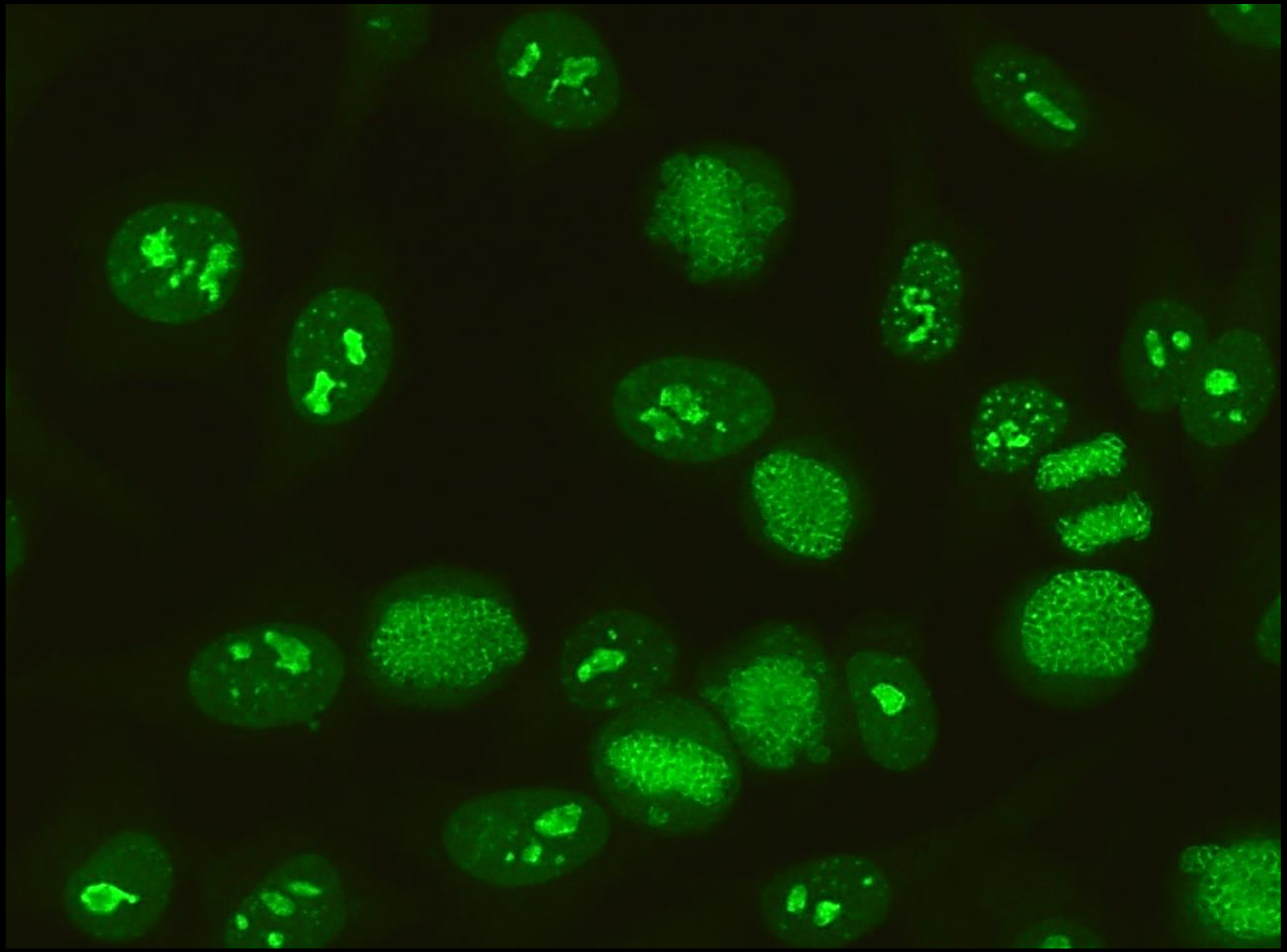

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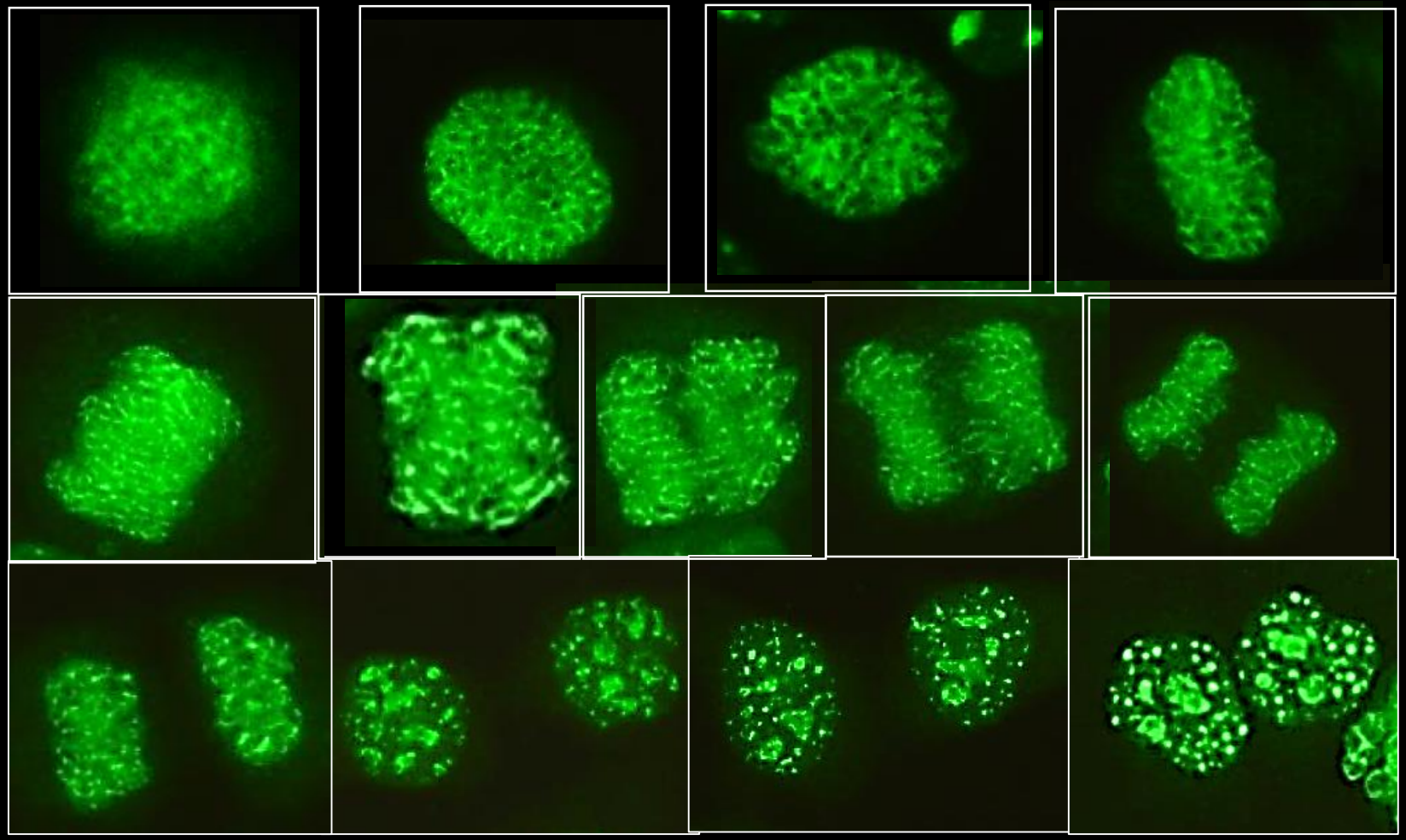

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