



Bienvenue

France
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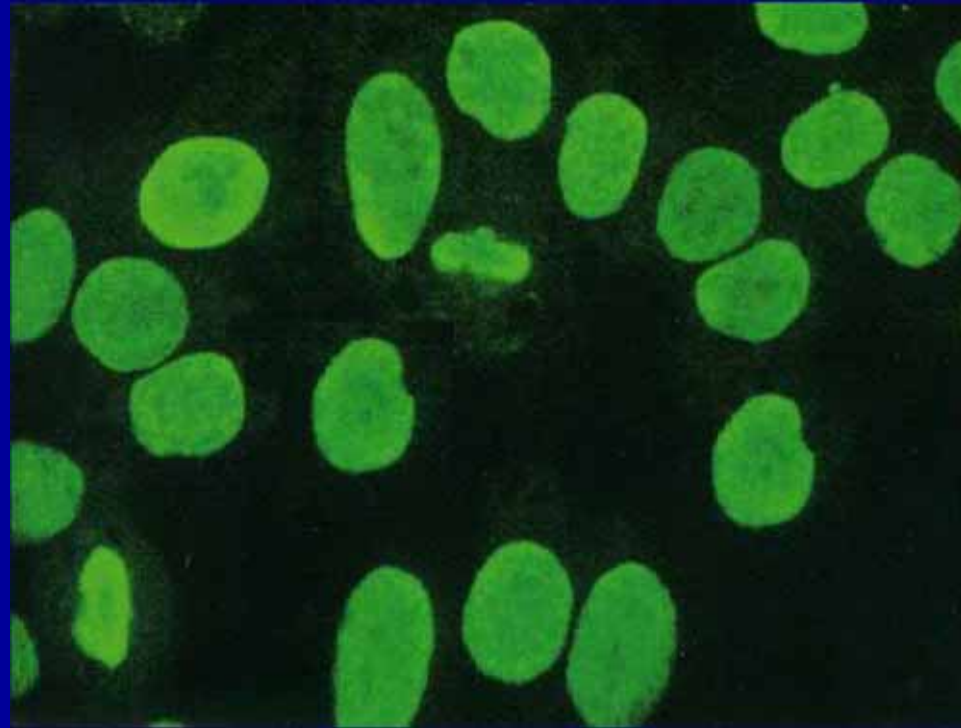
SÉROLOGIE. — *Mise en évidence dans le sérum de malades atteints de Lupus erythémateux disséminé d'une substance déterminant une réaction de précipitation avec l'acide désoxyribonucléique.* Note de M. **MAXIME SELIGMANN**,

SÉANCE DU 8 JUILLET 1957.

L'acide désoxyribonucléique (ADN) intervient dans les réactions de précipitation observées quand on met des extraits leucocytaires en présence du sérum de malades atteints de lupus erythémateux disséminé. Ces sérums réagissent avec des préparations d'ADN de différentes origines. La nature (anticorps ou histone ?) de cette substance sérique, absente du sérum humain normal, qui précipite avec l'ADN doit être discutée.



Maxime Seligmann
(14.03.1927 – 26.04.2010)



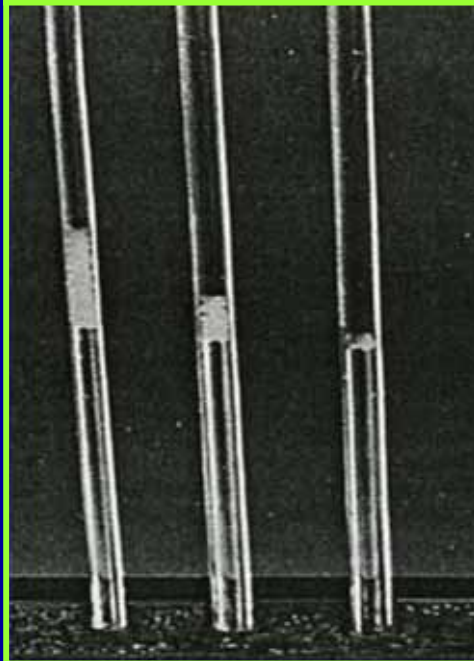
A DNA-Reacting Factor in Serum of a Patient with Lupus Erythematosus Diffusus.* (23544)

R. CEPPELLINI, E. POLLI AND F. CELADA (Introduced by H. G. Kunkel)
*Clinica Medica and Istituto Sieroterapico Milanese, Università di Milano and Institute for
Study of Human Variations, Columbia University, N. Y.*

13.09.1957

SÉROLOGIE. — *Mise en évidence dans le sérum de malades atteints de Lupus érythémateux disséminé d'une substance déterminant une réaction de précipitation avec l'acide désoxyribonucléique.* Note de M. **MAXIME SELIGMANN**, présentée par M. Jacques Tréfouël.

08.07.1957

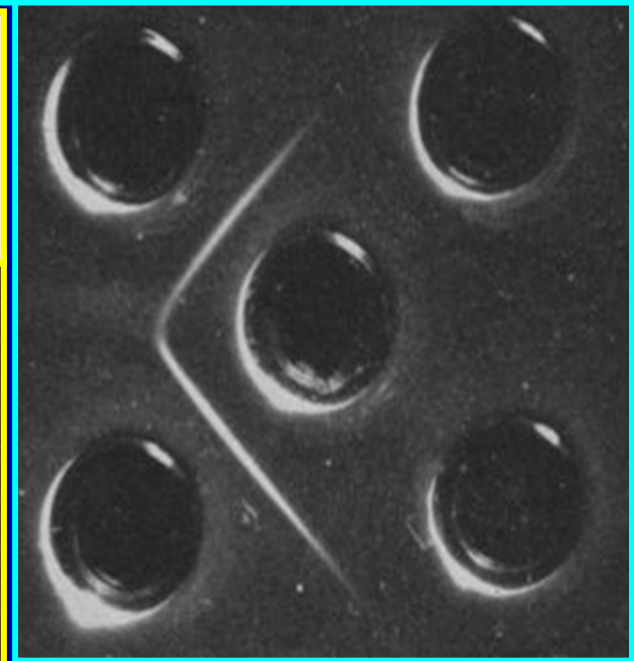
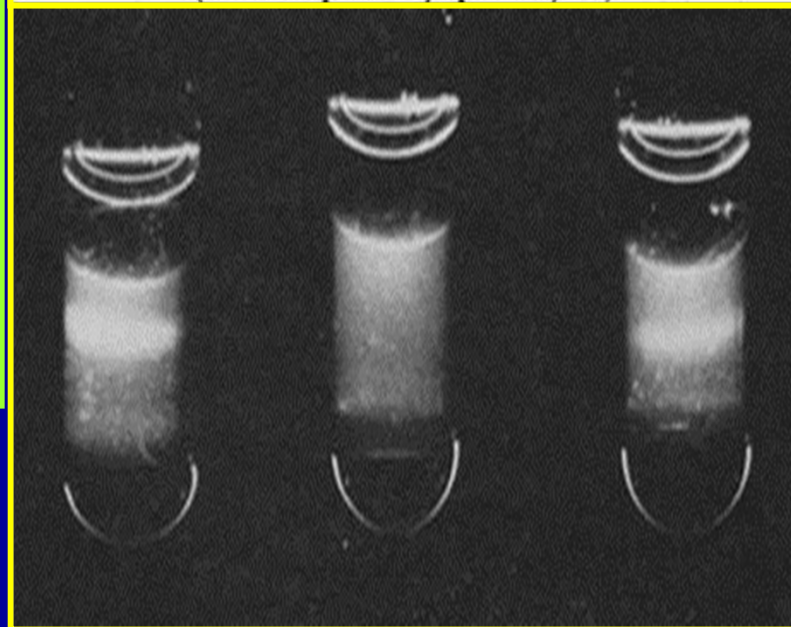


THE PRECIPITIN REACTION BETWEEN DNA AND A SERUM FACTOR IN SYSTEMIC LUPUS ERYTHEMATOSUS

By H. R. G. DEICHER, M.D., H. R. HOLMAN, M.D.,
AND H. G. KUNKEL, M.D.

(From The Rockefeller Institute)

(Received for publication, September 5, 1958)







AUTOANTICORPS

DIAGNOSTIC

CLASSIFICATION

PRONOSTIC

TRAITEMENT



AUTOANTICORPS PREDICTIFS

GAD - IA2

**DIABETE INSULINODEPENDANT
LADA**

TPO

HYPOTHYROIDIE

PROTEINES CITRULLINEES

POLYATHRITE RHUMAT.

ONCONEURONAUX

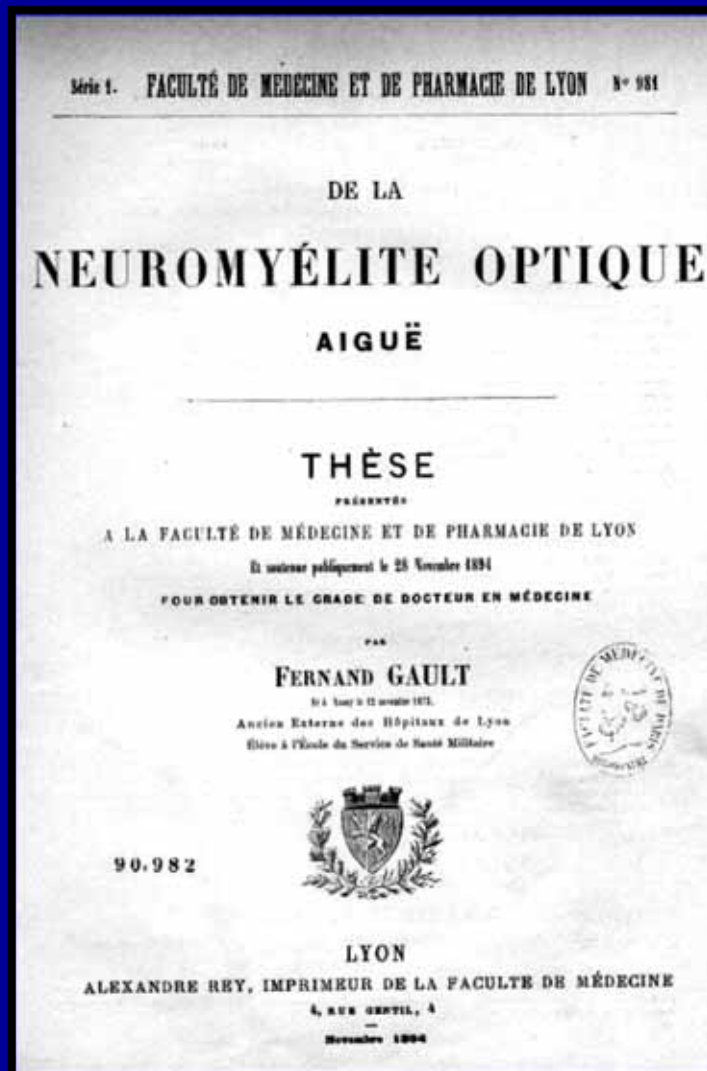
TUMEUR CANCEREUSE



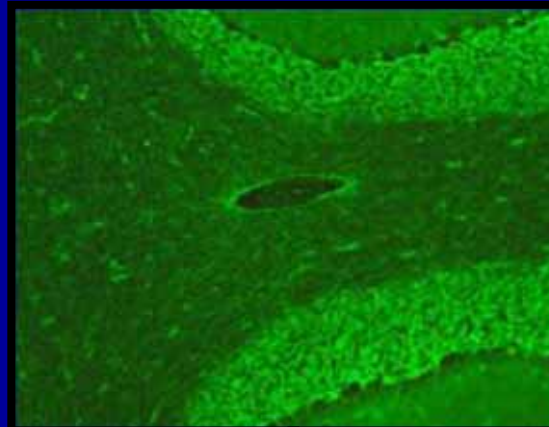
DIAGNOSTIC PRECOCE DE LA PR

SCORE DE LEIDEN 2007

Age du patient	x 0.02	= points
Sexe	F	= 1 point
Articulations touchées		
mains/pieds		= 0.5 point
symétriques		= 0.5 point
extrémités supérieures		= 0.5 point
sup. et inférieures		= 0.5 point
Raideur matinale (Sévérité - VAS)		
26 – 90 mm		= 1.0 point
> 90 mm		= 2.0 points
Nombres d'articulations douloureuses		
4 - 10		0.5 point
≥ - 11		= 1.0 point
Nombres d'articulations gonflées		
4 - 10		= 0.5 point
≥ - 11		= 1.0 point
CRP	5 - 50 mg/l	= 0.5 point
	> 50 mg/l	= 1.5 points
FR	positif	= 1.0 point
CCP	positif	= 2.0 points



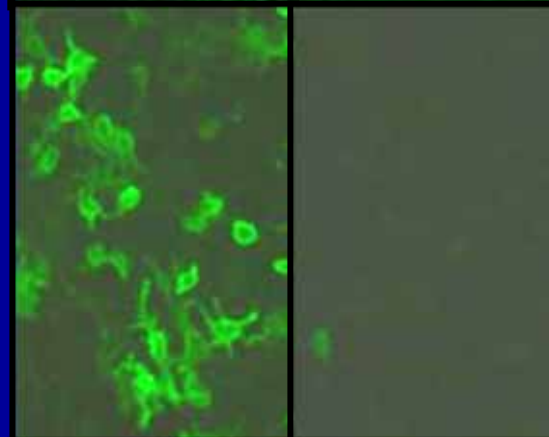
1894



IgG ANTI - NMO

IF Cervelet

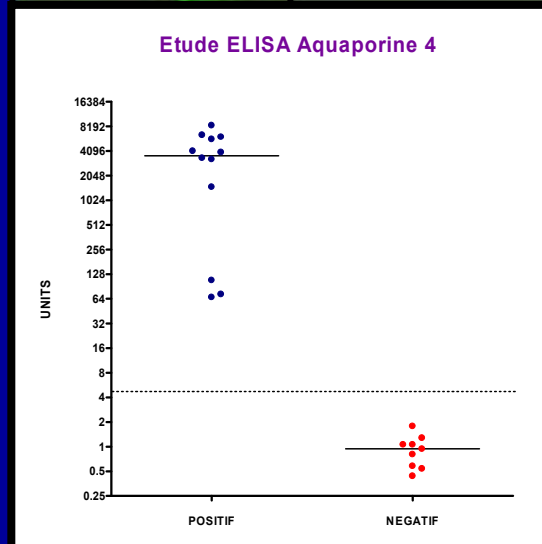
2004



ANTI - AQUAPORINE 4

IF Cellules Transfectées

2009



ANTI - AQUAPORINE 4

ELISA

2009



ENCEPHALITE LIMBIQUE



AUTOANTICORPS

**ANTI-CANAUX POTASSIQUES
(VGKC)**

**ANTI- RECEPTEURS GLUTAMATE
(NMADR)**

**ANTI-GLUTAMATE DECARBOXYLASE
(GAD)**



AUTOANTICORPS

1 CHOIX DES ANTICORPS A RECHERCHER

2. CHOIX DE LA METHODE

VALEUR CLINIQUE

SENSIBILITE

SPECIFICITE

**FACILITE
D'EXECUTION**

QUELS AUTOANTICORPS RECHERCHER ?

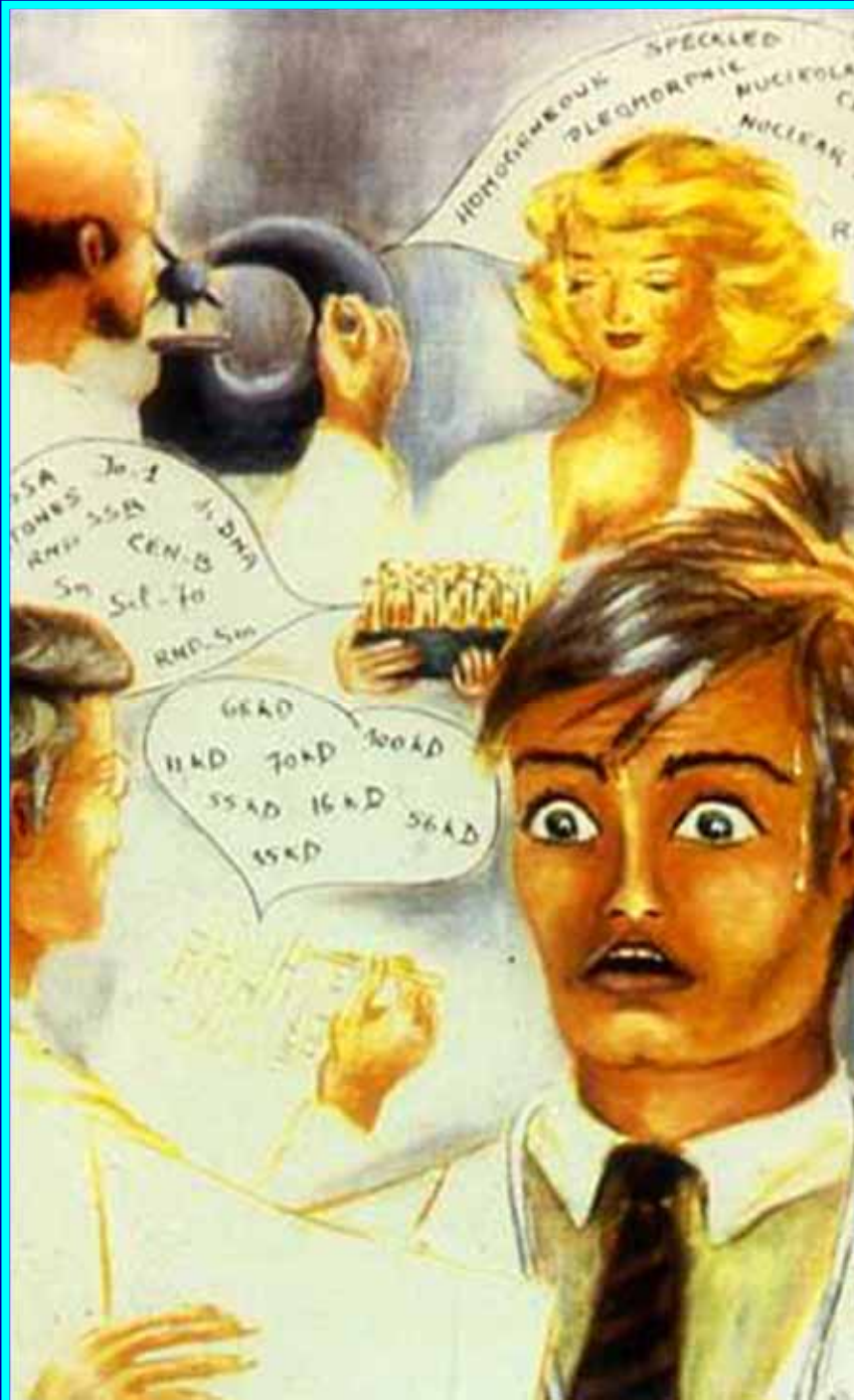
LUPUS	150
POLYARTHRITE RHUMATOIDE	70
SCLERODERMIE	50
SCLEROSE EN PLAQUE	25
MAL. CROHN	15



MALADIE DE CROHN



ASCA	60 %
OmpC	40
OwpC	35
I2	30
Flagelline	50
Mannobioside	28
Laminaribioside	20
Chitobioside	21
Laminarine	26
Chitine	25
Pancréas Exocrine	40
GP2 , CUDZD	

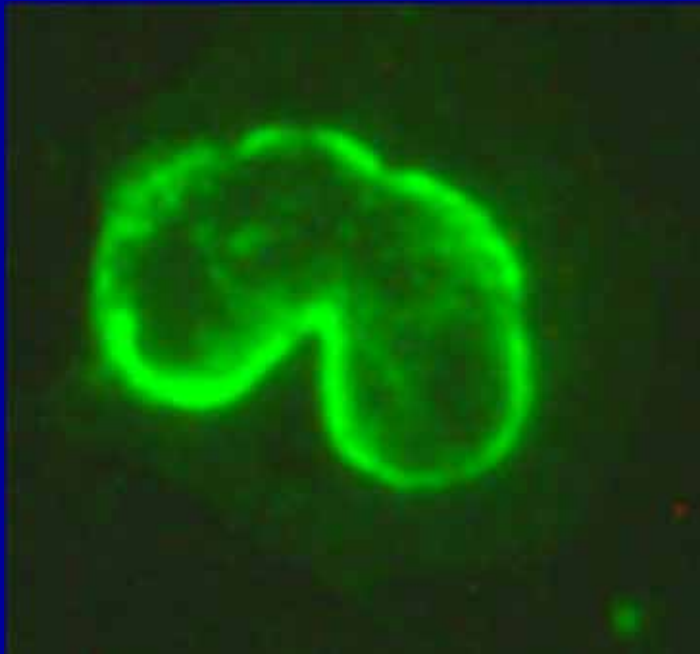


INFORMER LE PRESCRIPTEUR

NOMENCLATURE DES AUTOANTICORPS

INTERPRETATION DES RESULTATS

ANTICORPS ANTI – NEUTROPHILE RECTOCOLITE HEMORRAGIQUE



ANCA

GSANA

pANCA

NANA

aANCA

xANCA

ANTI-CITRULLINATED PROTEIN / PEPTIDE ANTIBODIES

ACPAs

CPA	: Filagrine de Rat recomb.Citrullinée	70 %
Anti-Sa	: Vimentine Citrullinée (Wblot)	40 %
	: MBP citrullinée (ELISA)	42 %
Anti-CCP2	: Cyclic Citrullinated Peptide 2	85 %
Anti-CCP3	: Cyclic Citrullinated Peptide 3	86 %
Anti-MCV	: Mutated Citrullinated Vimentin	75 %



J Pediatr Gastroenterol Nutr. 2008 Oct;47(4):428-35.
**Antigliadin immunoglobulin A best in finding
celiac disease in children younger than 18
months of age.**

Lagerqvist C, Dahlbom I, Hansson T, Jidell E, Juto P,
Olcén P, Stenlund H, Hernell O, Ivarsson A.

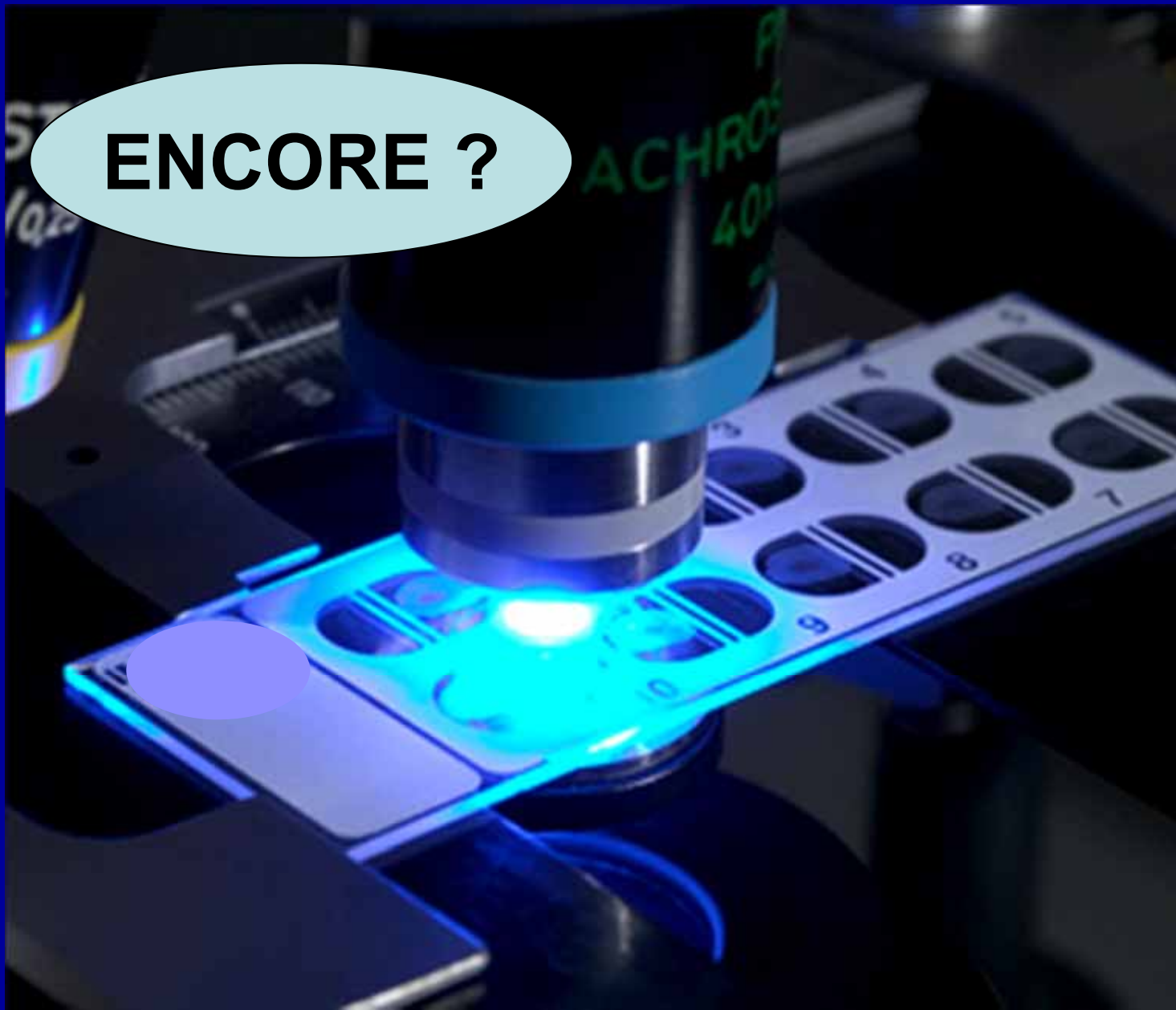
**Antigliadin antibody testing for coeliac
disease in children under 3 years of age is
unhelpful**

***S Holding,
M Abuzakouk,
P C Doré***

J Clin Pathol 2009;62:766767

IMMUNOFLUORESCENCE

ENCORE ?



AUTOANTIBODIES DETECTED BY IMMUNOFLUORESCENCE

1957 - 1988 : 27

1957 : Nuclear
Thyroid
1959 : Cardiac Muscle
1961 : Granulocytes
1962 : Parietal Cells
Adrenal Glands
Steroid Cells
1964 : Epidermis (ICS)
Perinuclear Factor
ADN
1965 : Smooth-Muscle
Neurones
Mitochondria
1967 : Epidermis (BM)
1969 : Parathyroid
Glomerular BM

1971 : Reticulin
1973 : LKM
1974 : Pancreas (ICA)
1975 : Prolactin Cells
1979 : Keratin
1982 : ANCA
1985 : Endomysium
Myelin
1988 : LC1



CHRISTIAN FECHNER présente

VANESSA PARADIS



Elisa

UN FILM DE
JEAN BECKER

AVEC
GERARD DEPARDIEU

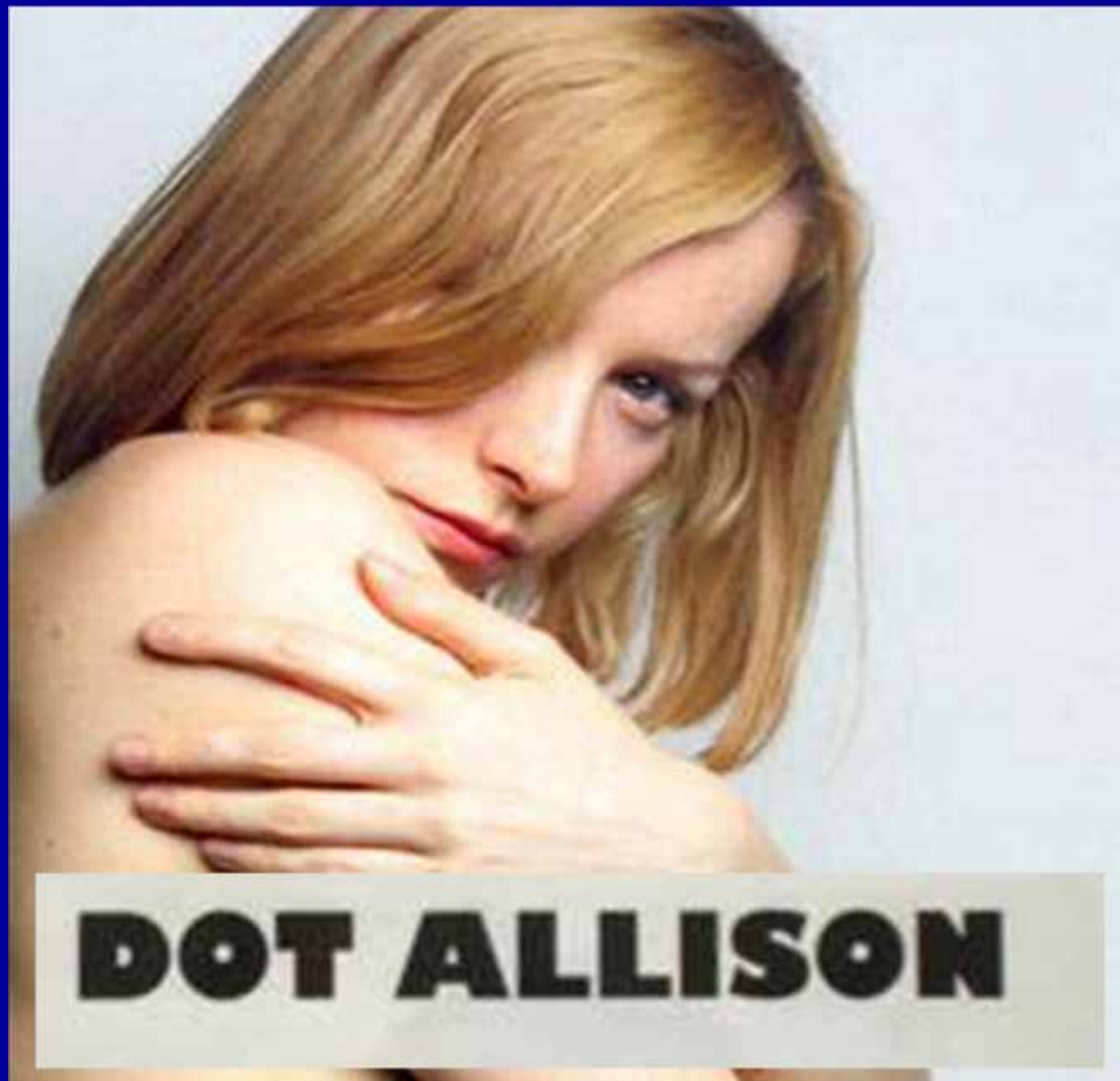
DANS LE RÔLE DE LÉONIDCH

CLOTILDE COURAU - SEKKOU SALL - FLORENCE THOMASSEN - WERNER SCHMEYER - MICHEL BOUGUET - PHILIPPE LEONARD - JEAN BECKER - FABRICE CARAZZ - STÉPHANE BECKER -
THERÈSE RIPAUD - JACQUES RITTM - JEAN-LOUIS UGHETTO - WILLIAM FLAGEOLLET - ZBIGNIEW PREISNER - SERGE GASSBOURG - MICHEL COLOMBIER - HENRI BRICHETTI -
HERVÉ TILFRAUT - DIDIER FAIN - FILM CHRISTIAN FECHNER - SOLID PRODUCTIONS - TFI FILMS PRODUCTION - CANAL+ - BNP IMAGES

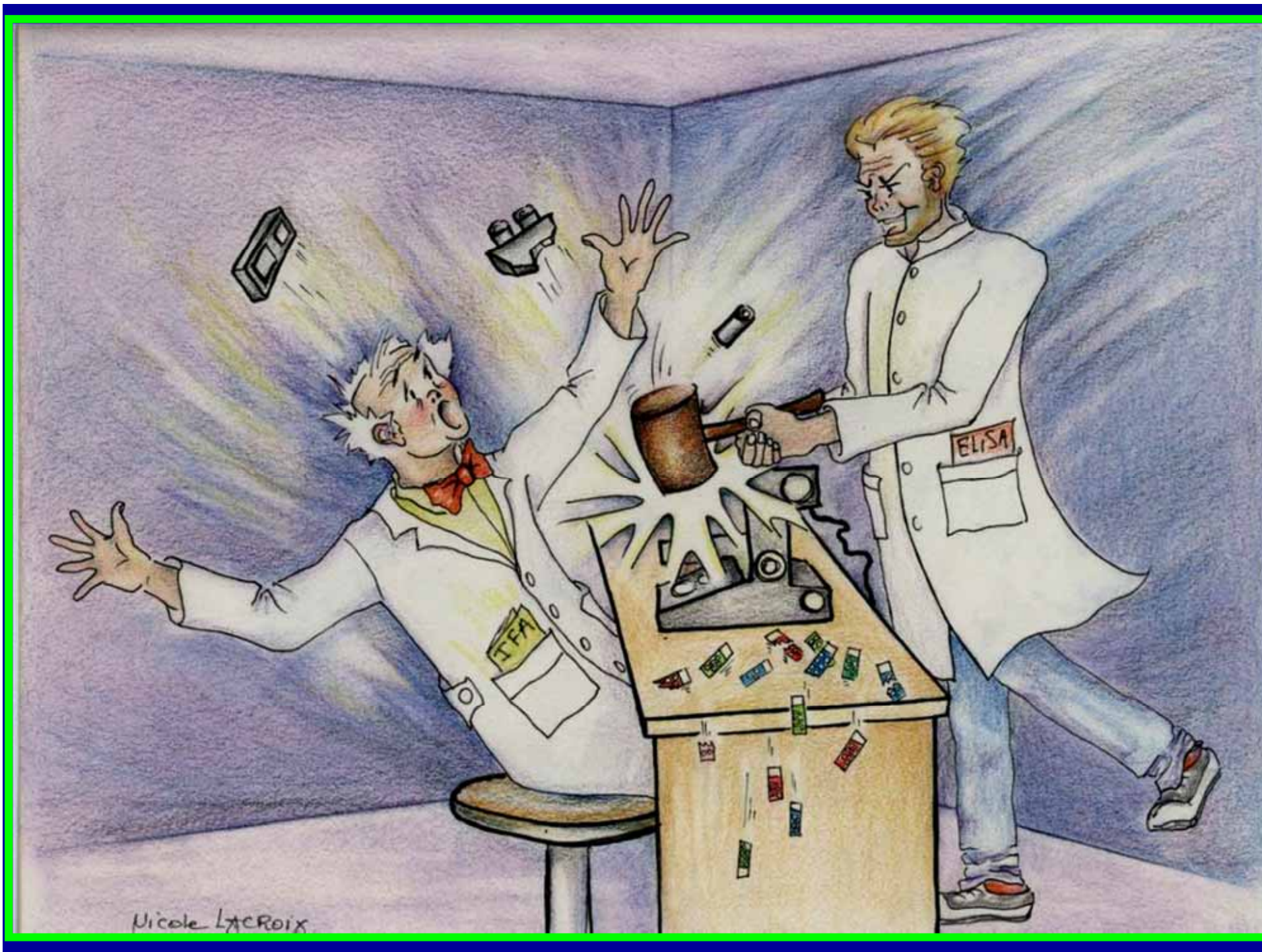


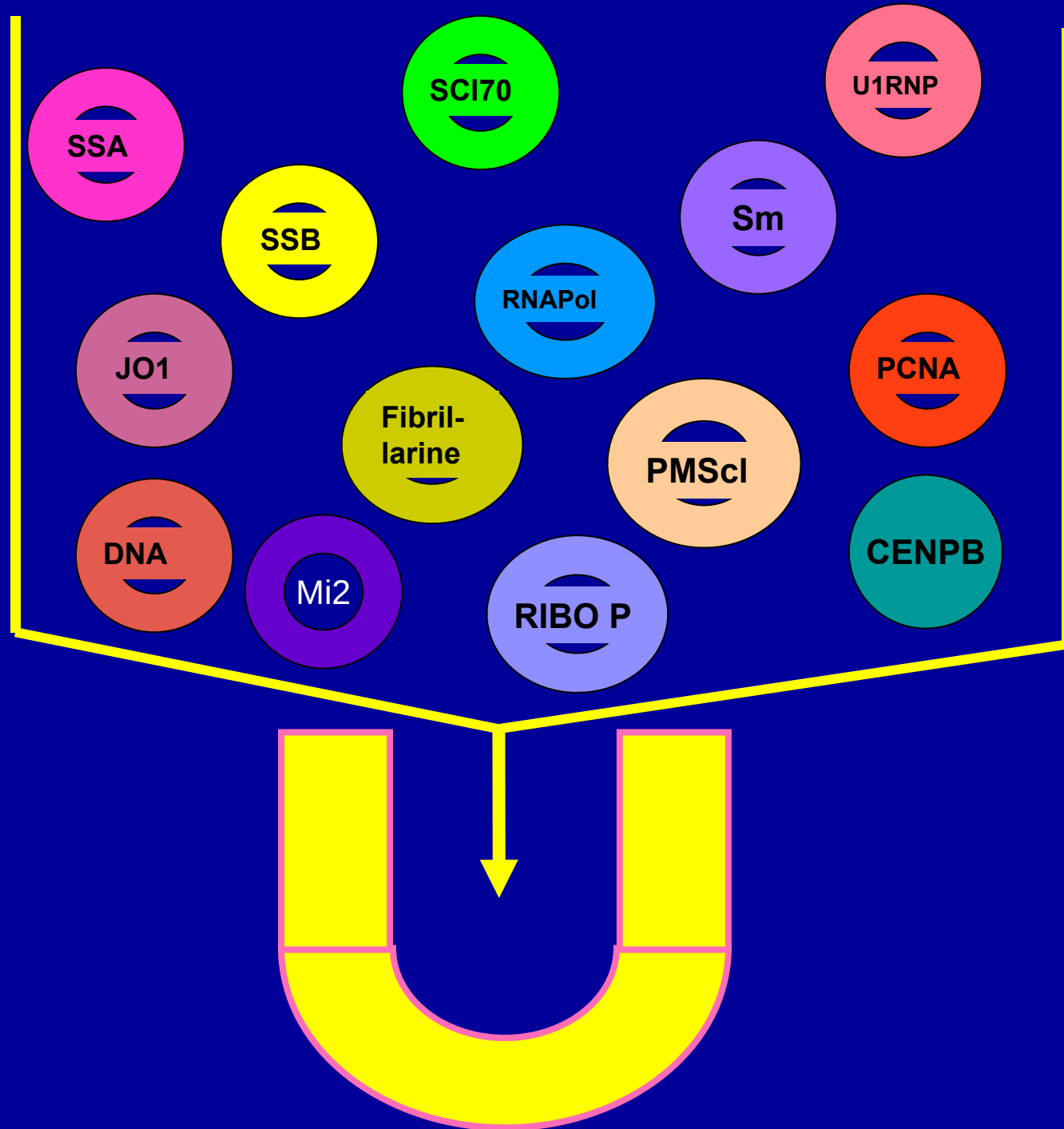
Luminex[®]





DOT ALLISON



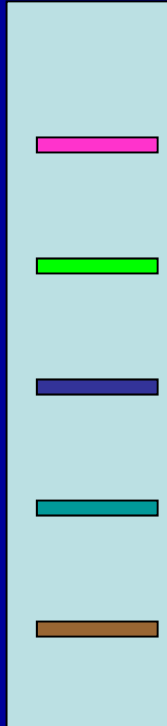


TESTS MULTIPARAMETRIQUES

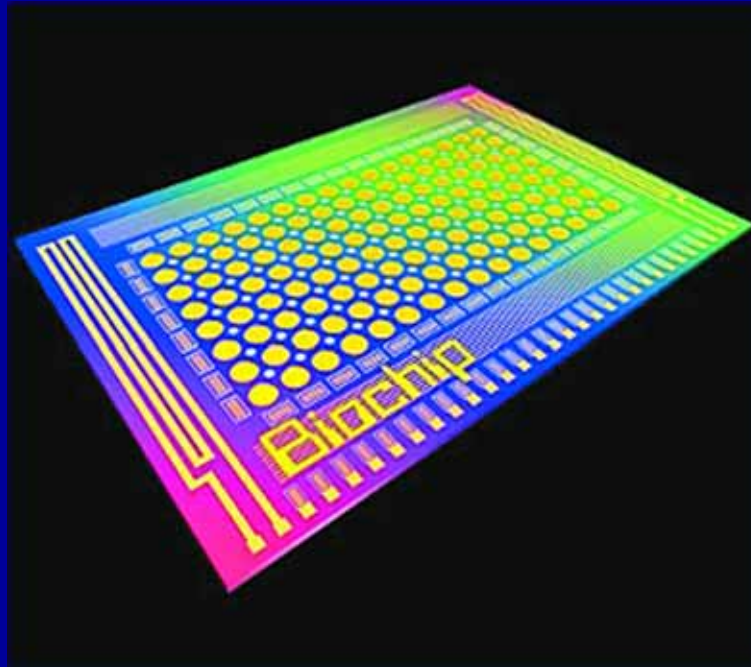
MULTIPLEXAGE



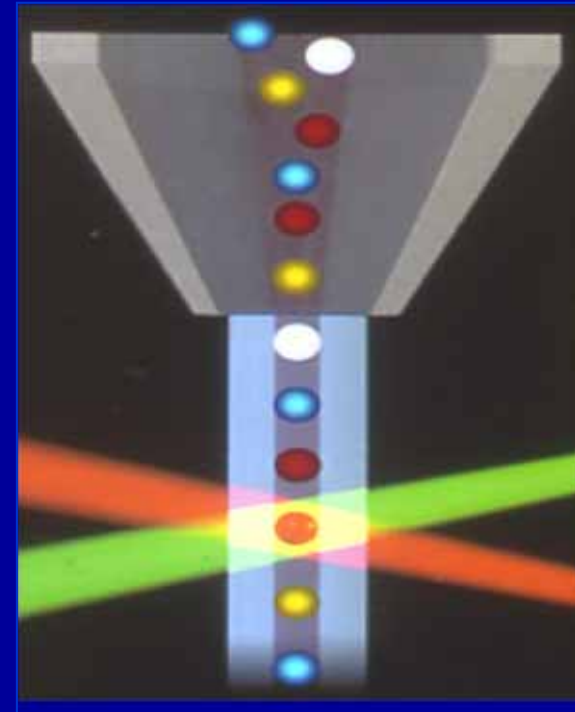
ELISA



IMMUNODOT



BIOPUCES

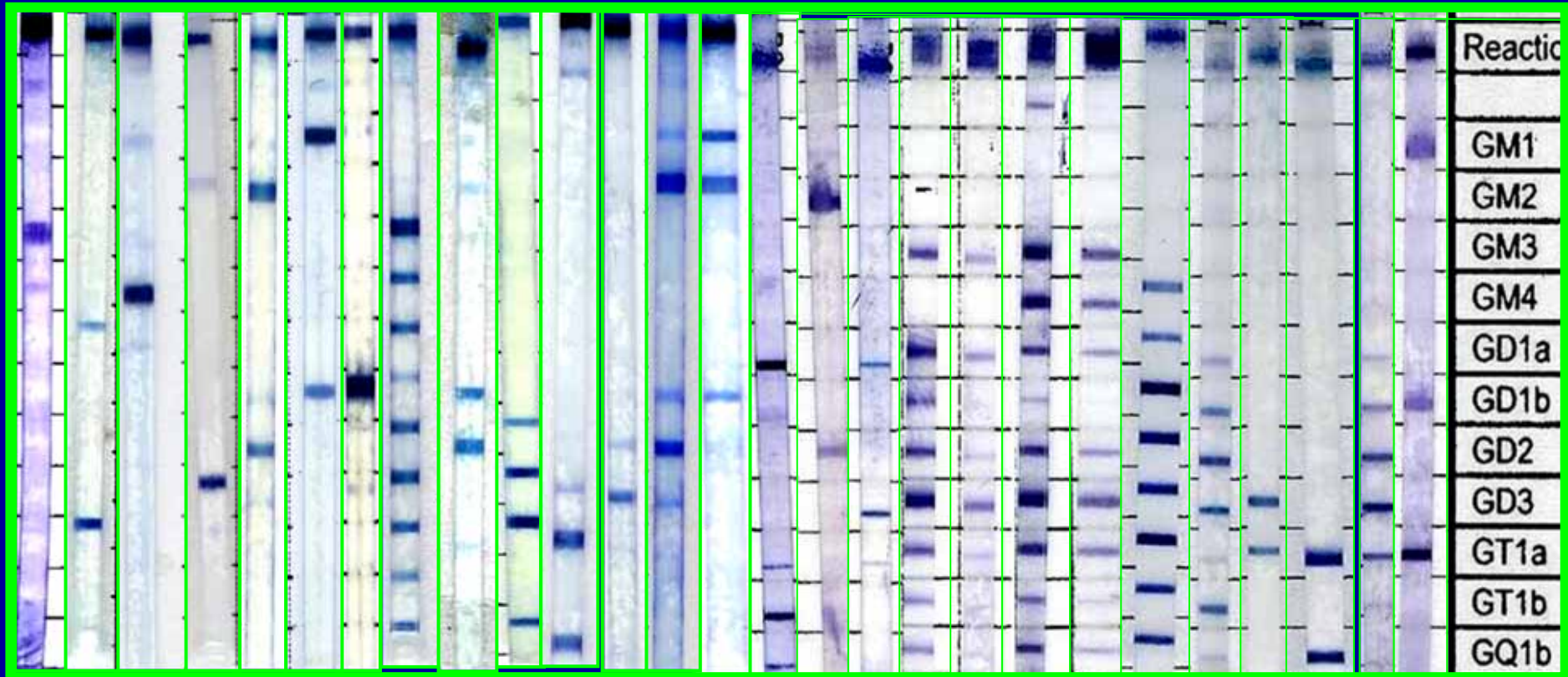


LUMINEX

PROFILS D'ANTICORPS

PROFILS DES ANTICORPS ANTI-GANGLIOSIDES

2007- Mars 2010 : 1699 Tests : 400 Positifs



IgG : 28 Profils Différents

IgM : 33 Profils Différents

**ANTICORPS
ANTI-
PHOSPHOLIPIDES**

COMPLEXE

Phosphatidyl-
serine

Prothrombine

Annexine V

Phosphatidyl-
Ethanolamine

β2 Glycoprotéine1

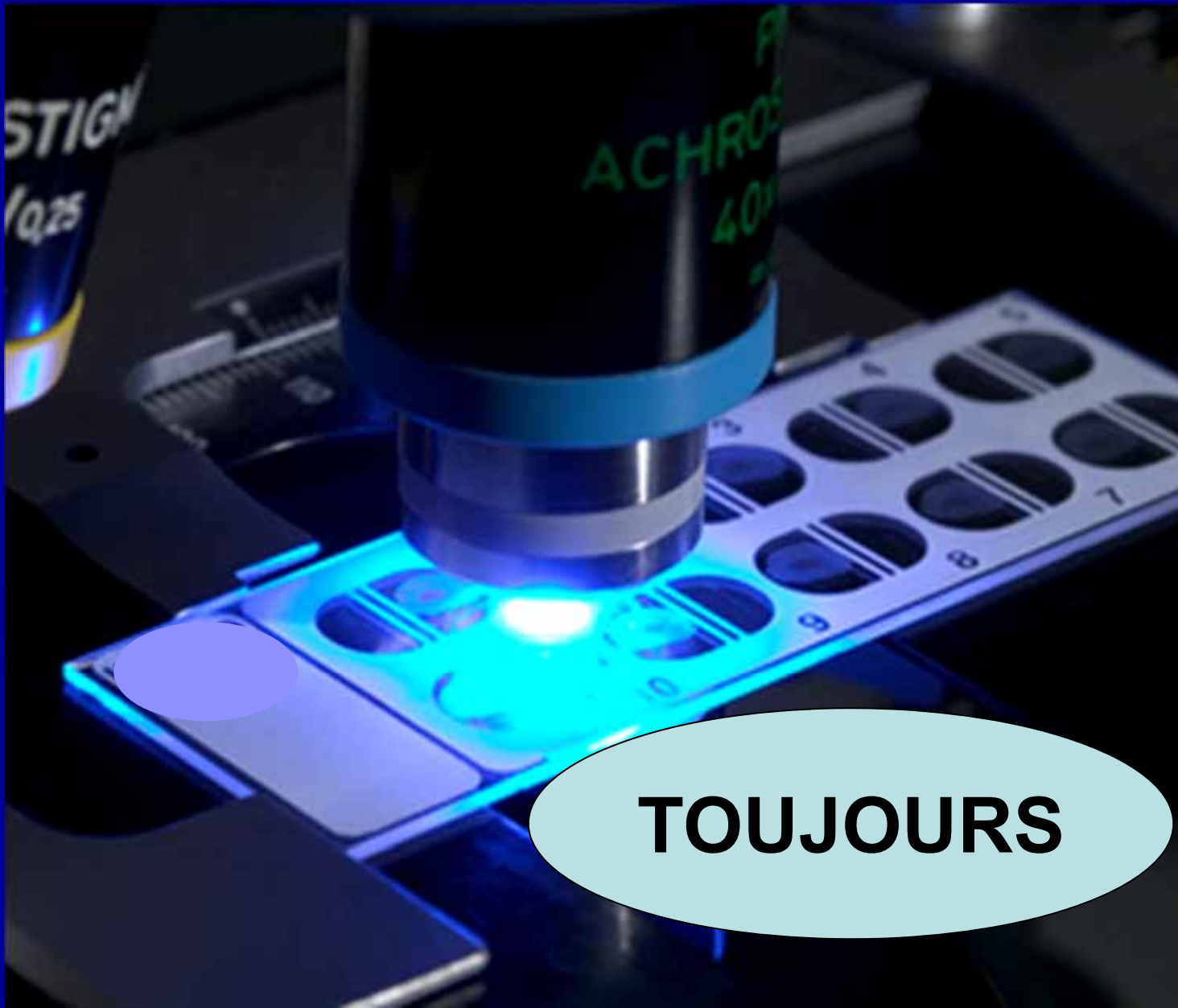
Cardiolipide
Phosphatidyl-
Choline

COMPLEXE

IgG / IgM

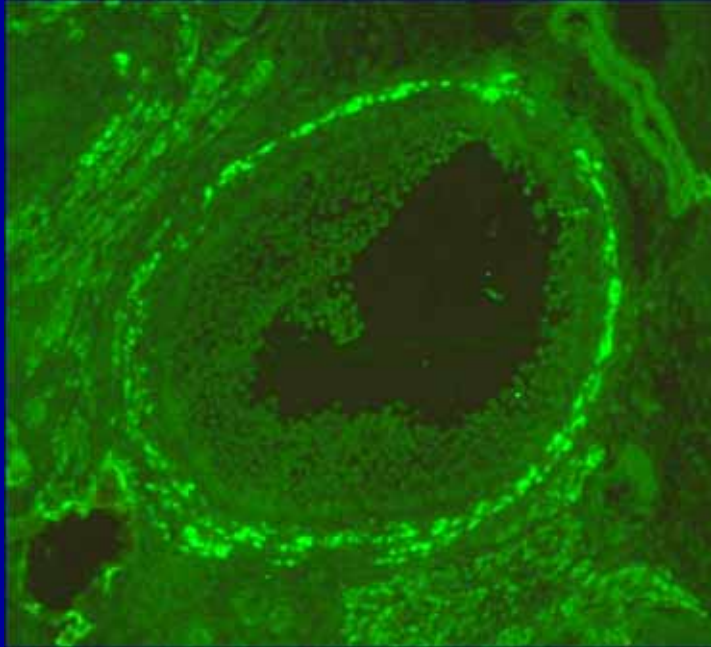


IMMUNOFLUORESCENCE

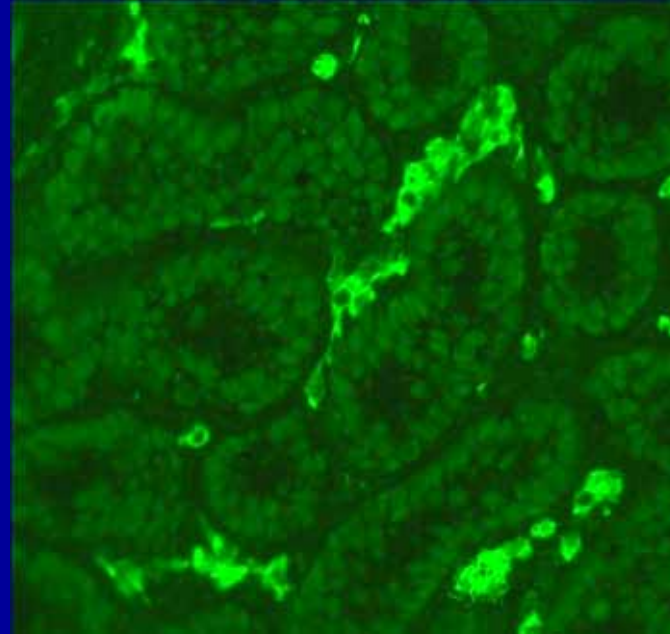


TOUJOURS

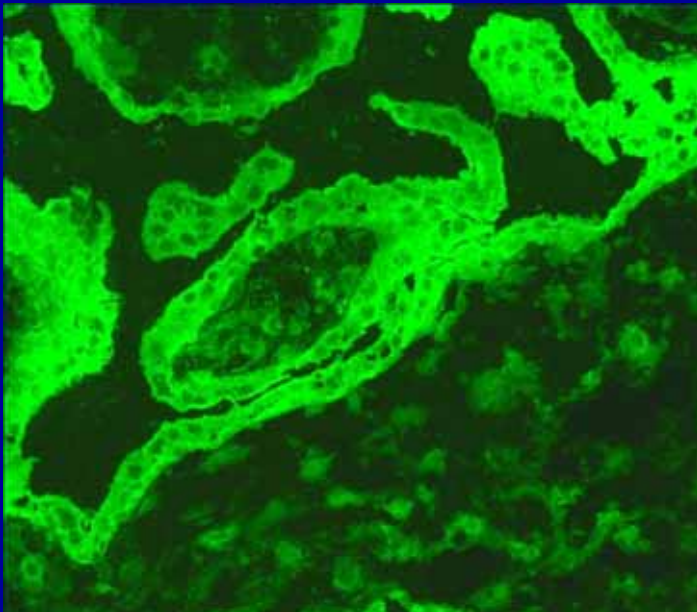
OVAIRE



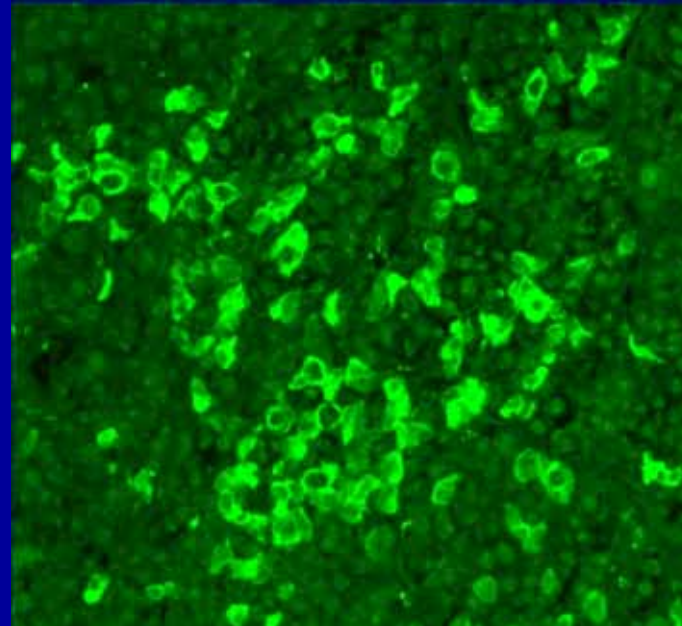
TESTICULE



PLACENTA

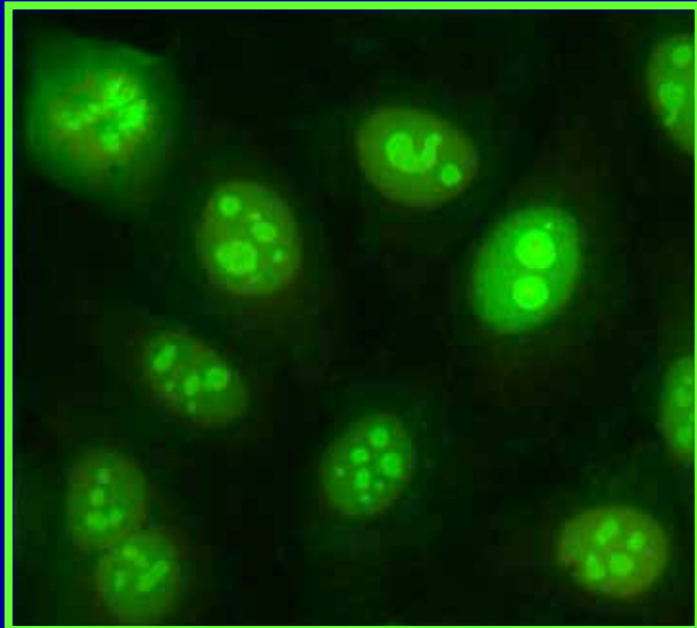


HYPOPHYSE



ANTI-NUCLEOLAIRES

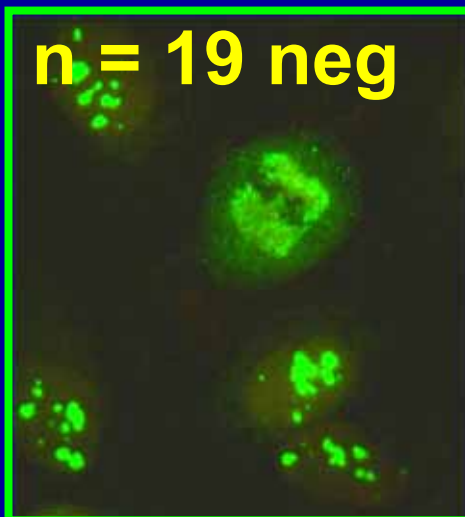
N = 55



n = 4

n = 8

n = 1

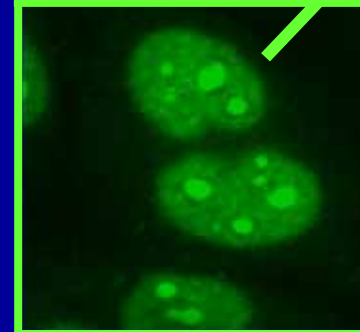
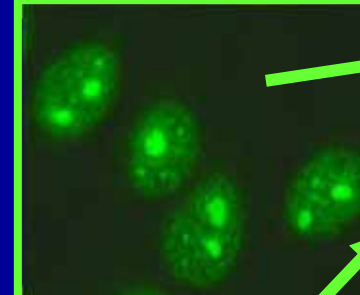
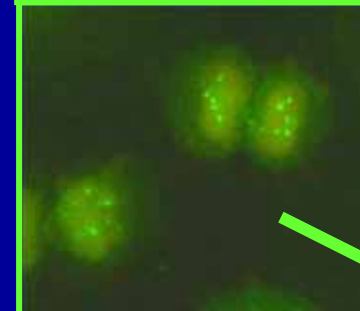
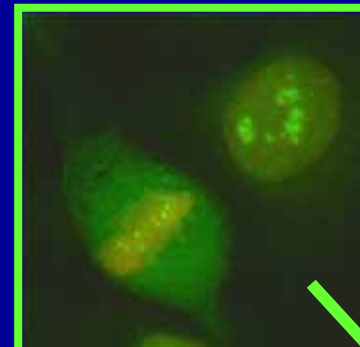


n = 19 neg

n = 2

Neg : 40

IMMUNODOT



Scl-70

CENP-A

CENP-B

RP11

RP155

Fibrillarin

NOR90

Th/To

PM-Scl100

PM-Scl75

Ku

PDGFR

Ro-52



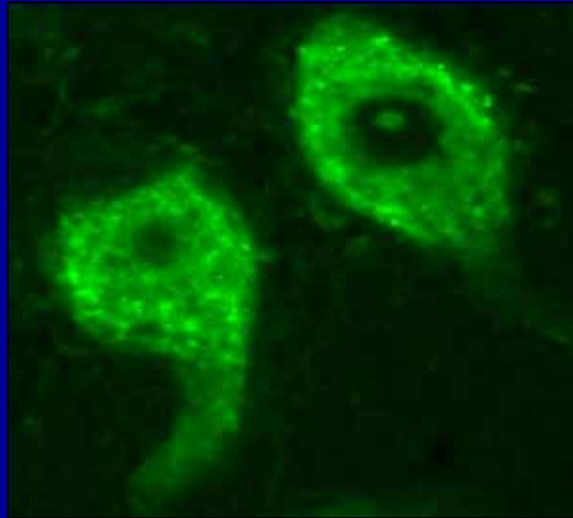
ANTI – CELLULES DE PURKINJE

Yo

PCA2

PCA Tr

mGluR1



Ca

(ARHGAP26)

GluR2 δ

Adenylate Kinase 5

Protein Kinase Cy

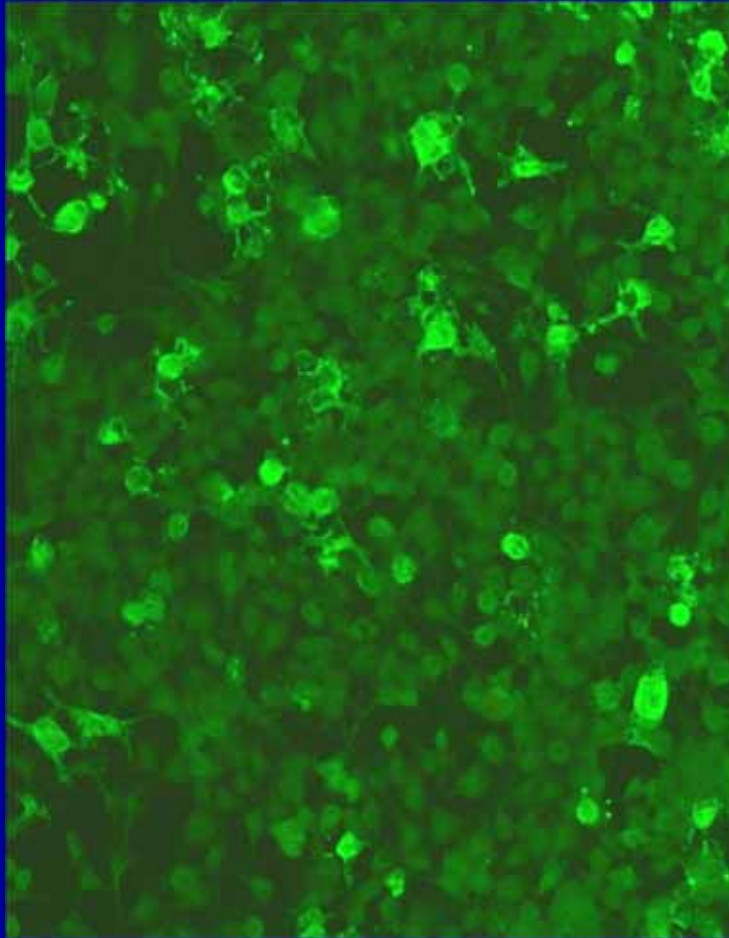
HOMER 3

IMMUNOFLUORESCENCE

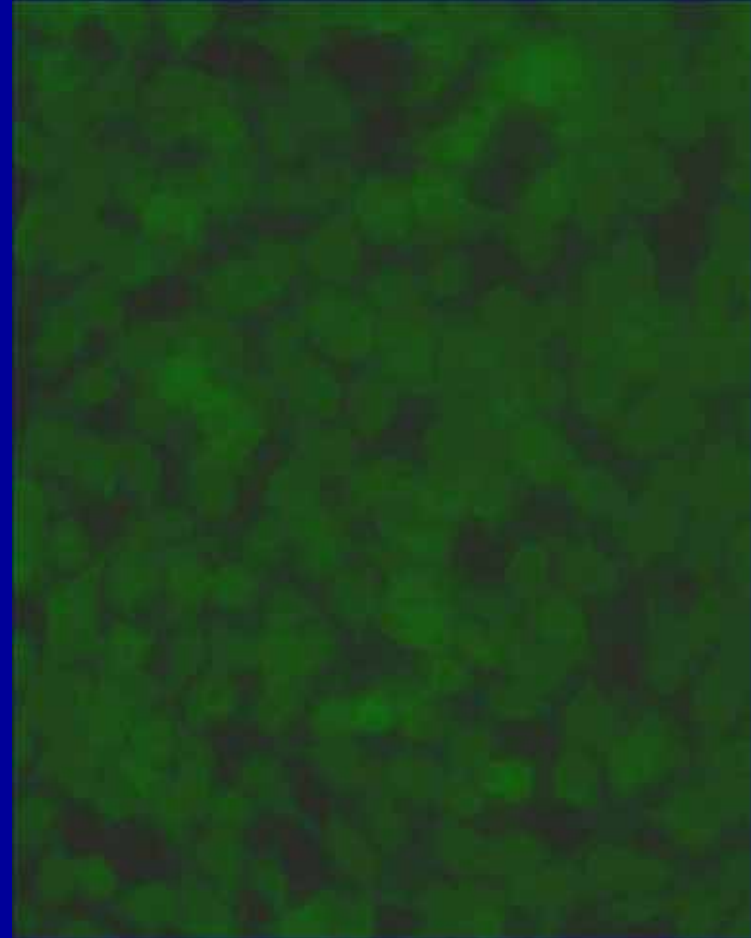
SUR CELLULES TRANSFECTEES

- **SSA/Ro**
- **Aquaporine 4**
- **Recepteur MDAR du Glutamate**
- **Desmoglénines 1 et 3**
- **BP 230**
- **PAGs Pancréas Exocrine**

ANTI-RECEPTEUR GLUTAMATE NMDAR



CELLULES TRANSF.



CELLULES NON TRANSF.

IMMUNOESSAIS

ANTIGENES

NATIFS

COMPLEXES MACROMOLECULAIRES

Extraits Tissus ou Cellules

Origine Animale ou Humaine

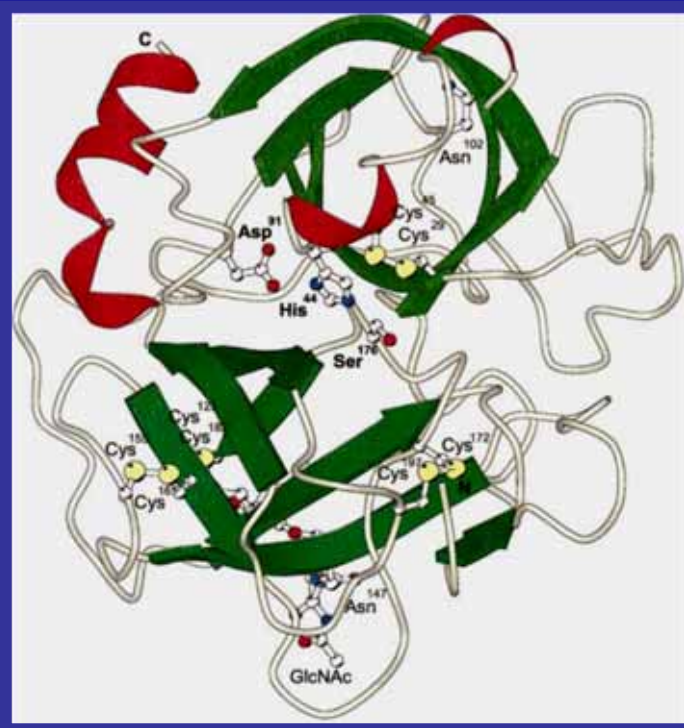
RECOMBINANTS (Prokaryote)

(Eukaryote)

PEPTIDES SYNTHETIQUES

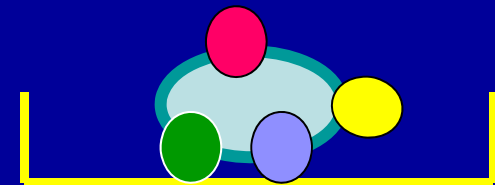
ANTICORPS ANTI – PR3

PROTEINASE 3 Native Humaine Recombinante

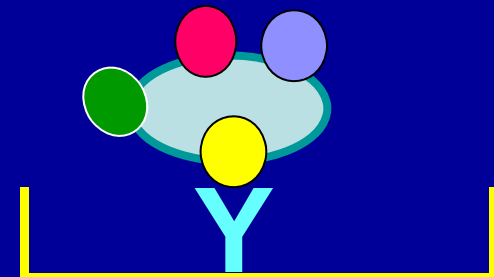


ELISA

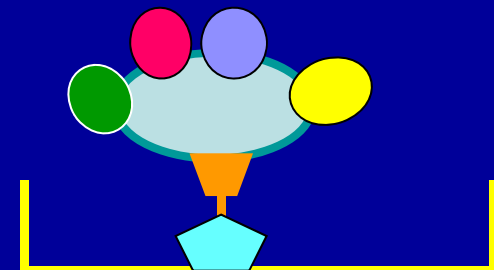
DIRECT



CAPTURE



ANCHOR



AUTOANTICORPS

POSITIF

NEGATIF

*CUT - OFF
CUT - POINT*

*LIMITE
DOUTEUX
'BORDERLINE'
FAIBLEMENT POSITIF*

Comparison of Threshold Cutpoints and Continuous Measures of Anti-Cyclic Citrullinated Peptide Antibodies in Predicting Future Rheumatoid Arthritis

LORI B. CHIBNIK, LISA A. MANDL, KAREN H. COSTENBADER, PETER H. SCHUR, and ELIZABETH W. KARLSON

Table 2. Relative risks and predictive accuracy of 5 threshold levels of anti-CCP level.

Level, U/ml	Anti-CCP+ Cases	Anti-CCP+ Controls	Odds Ratio Model 1* (95% CI)	Odds Ratio Model 2** (95% CI)	Sensitivity, %	Specificity, %
> 1	75 (81)	195 (72)	2.6 (1.3–5.5)	1.9 (0.9–4.3)	81	30
> 2	47 (51)	57 (20)	10.6 (4.8–23.0)	11.2 (4.7–26.9)	51	80
> 3	30 (32)	9 (3)	16.7 (6.5–43.3)	18.4 (6.5–52.4)	32	97
> 4	28 (30)	0 (0)			30	100
> 5	26 (28)	0 (0)			28	100

* Model 1: conditional logistic regression controlling for matching factors. ** Model 2: Model 1 with additional adjustment for residual age, body mass index (continuous), smoking status/pack-years of smoking categories (never, ever/< 11 pack-yrs, ever/≥ 11 pack-yrs), breastfeeding categories (nulliparous, parous/no breastfeeding, parous/< 1 yr breastfeeding, and parous/≥ 1 yr breastfeeding), menopause status/postmenopausal hormone use at diagnosis, menses before 12 years old, regularity of periods, and Caucasian race.

Conclusion. A lower threshold for anti-CCP positivity was more sensitive in predicting RA development. Higher ranges of the level were informative in predicting time to RA onset. (J Rheumatol First Release Feb 15 2009; doi:10.3899/jrheum.080895)

J.Rheumatol. 2009



Low Level (Below Cutoff) of Anti-Cyclic Citrullinated Peptide Test Results in Diagnosis of Rheumatoid Arthritis in a High-risk Population

Table 1. Diagnostic performance of 5 cut-off levels of anti-cyclic citrullinated peptide test for the diagnosis of rheumatoid arthritis.

	Level (U/ml)				
	> 1	> 2	> 3	> 4	> 5
Sensitivity (%)	91	86	83	82	80
Specificity (%)	46	68	74	78	82
PPV (%)	44	55	59	63	67
NPV (%)	91	91	91	90	90
PLR	1.69	2.71	3.20	3.74	4.35
NLR	4.88	4.78	4.45	4.26	4.10

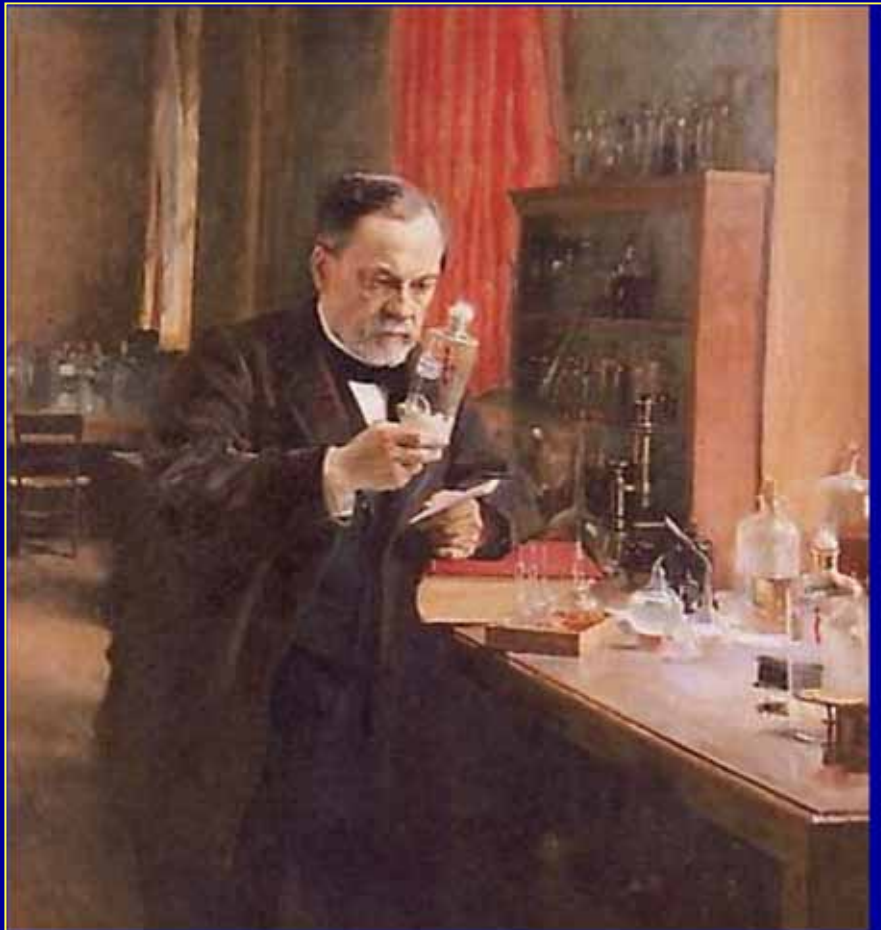
PPV: positive predictive value, NPV: negative predictive value, PLR: positive likelihood ratio, NLR: negative likelihood ratio.

J.Rheumatol. 2010

DUCK-AN KIM, MD; THINK-YOU KIM, MD, Department of Early Arthritis/Laboratory Medicine, The Hospital for Rheumatic Diseases, Seoul, Republic of Korea. Address correspondence to Dr. T-Y. Kim, The Hospital for Rheumatic Diseases—Early Arthritis, Hanyang University Medical Center, 17 Haengdang-dong Seongdong-gu, Seoul 133-792, Republic of Korea. E-mail: tykim@hanyang.ac.kr



IDENTIFIER CORRECTEMENT LES AUTOANTICORPS

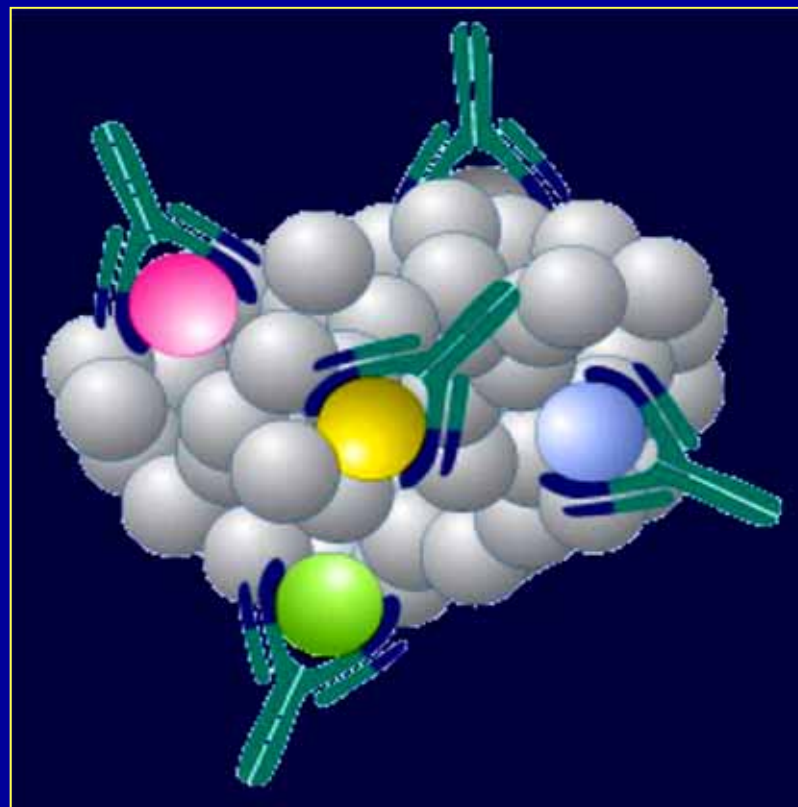


*N'avancez rien qui ne
puisse être prouvé de
façon simple et
décisive*

STANDARDISATION DES METHODES

**ANTICORPS
POLYCLONAUX**

**ANTIGENES
MULTIVALENTS**



MATERIEL DE REFERENCE ?

ACCREDITATION



Au Secours

PREANALYTIQUE

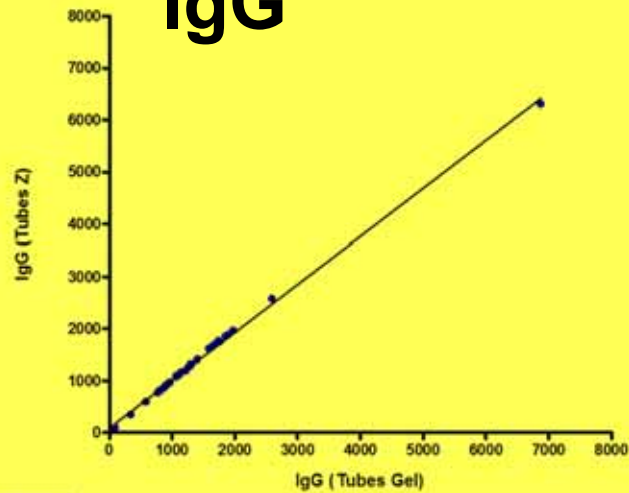


PRELEVEMENT SANGUIN

**TUBES EN VERRE
TUBES PLASTIQUES
TUBES GEL SEPARATEUR**

Corrélation IgG (Tubes Gel)-IgG (Tubes Z)

IgG



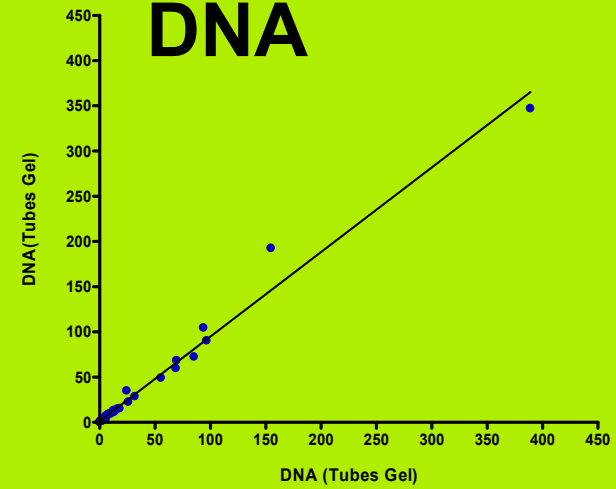
$$y = 0.92x + 91.6$$

$$r = 0.999$$

$$n = 34$$

Corrélation DNA (Tubes Gel)-DNA (Tubes Z)

DNA



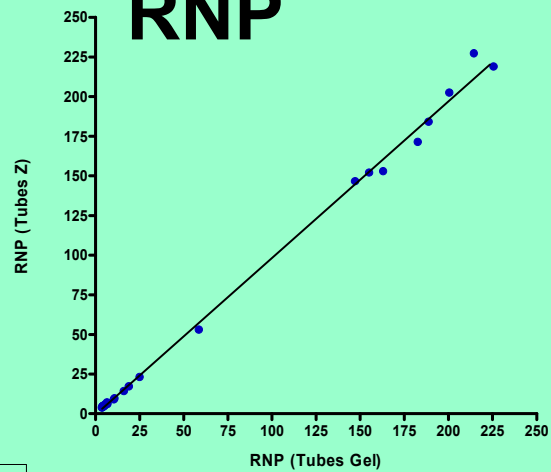
$$y = 0.94x + 1.30$$

$$r = 0.99$$

$$n = 34$$

Corrélation RNP (Tubes Gel)-RNP (Tubes Z)

RNP



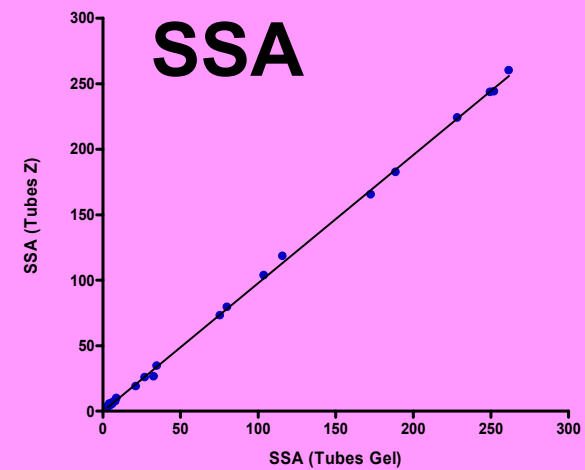
$$y = 0.99x - 0.65$$

$$r = 0.999$$

$$n = 34$$

Corrélation SSA (Tubes Gel)-SSA (Tubes Z)

SSA



$$y = 0.98x - 0.05$$

$$r = 1.00$$

$$n = 34$$



