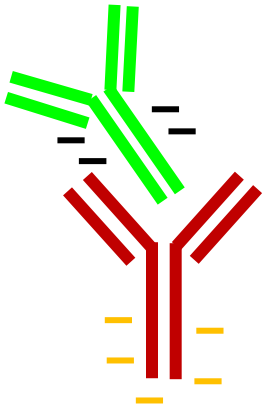
Nieves SANZ
Asesora Científica de Sebia (Francia)
nsanz@sebia.com

Immunotyping

INTERPRETACION DE RESULTADOS

sebia
The new language of life

Principio de la técnica



Inmunoglobulina
del suero

\+

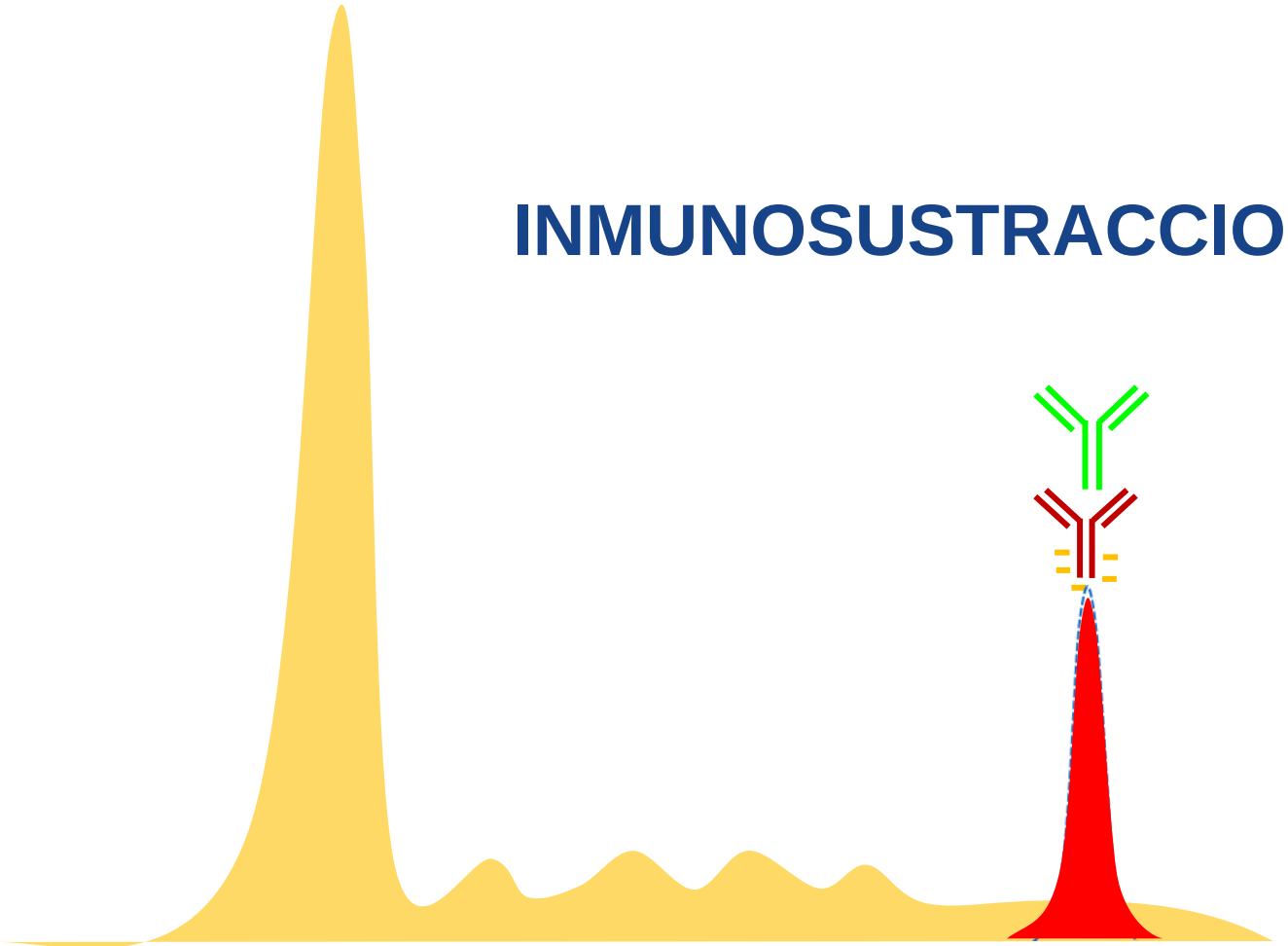
Antisuero

↓

INMUNOCOMPLEJO
con elevada carga negativa

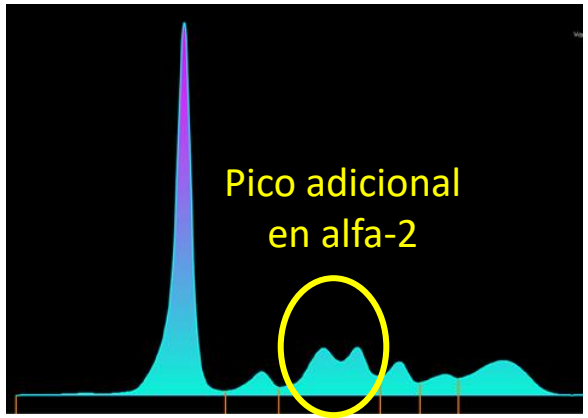
↓

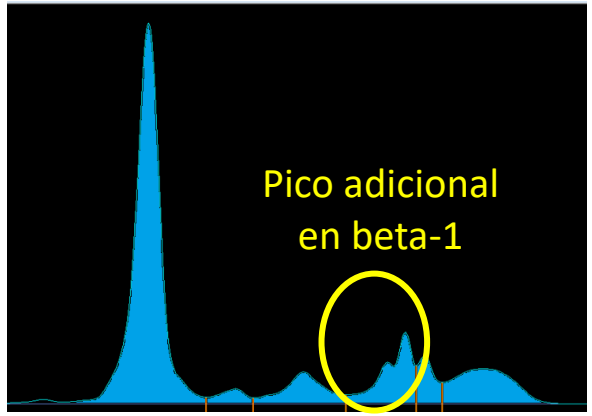
Migración del
INMUNOCOMPLEJO cercano
a la fracción albúmina

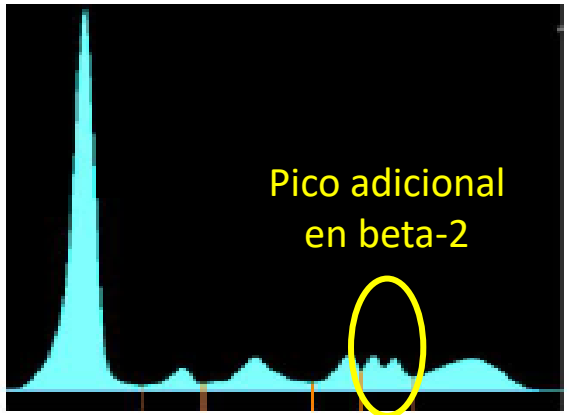


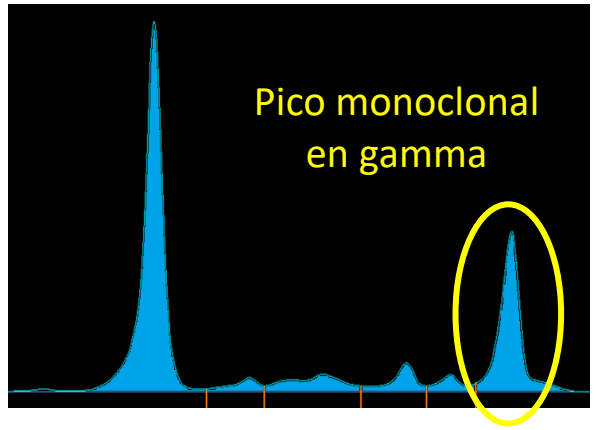
INMUNOSUSTRACCION

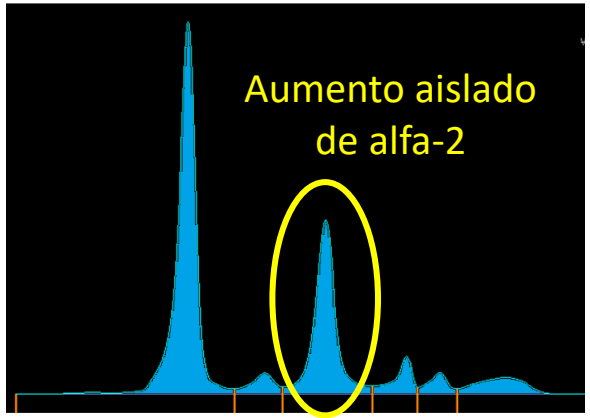
Cuando realizar un IT?

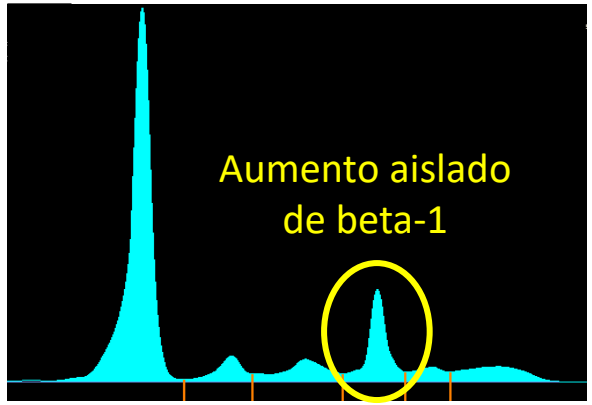


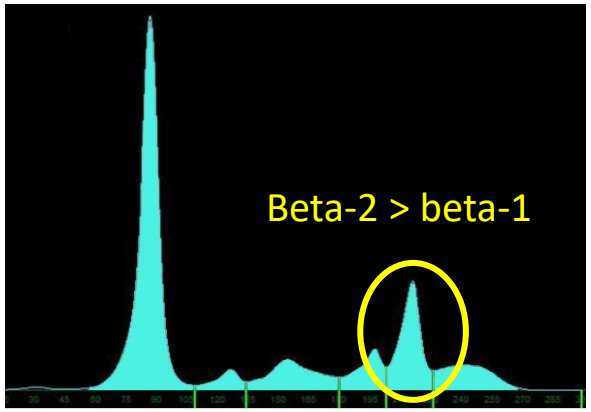


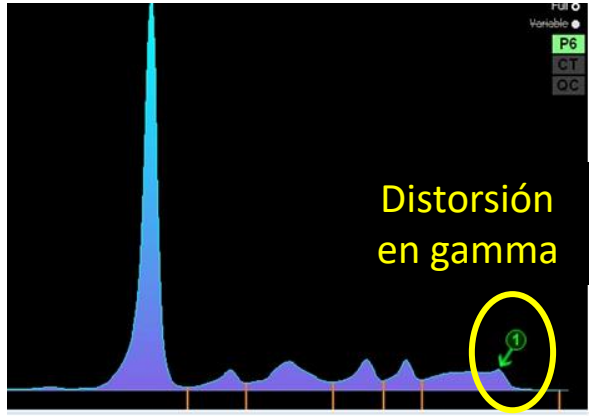




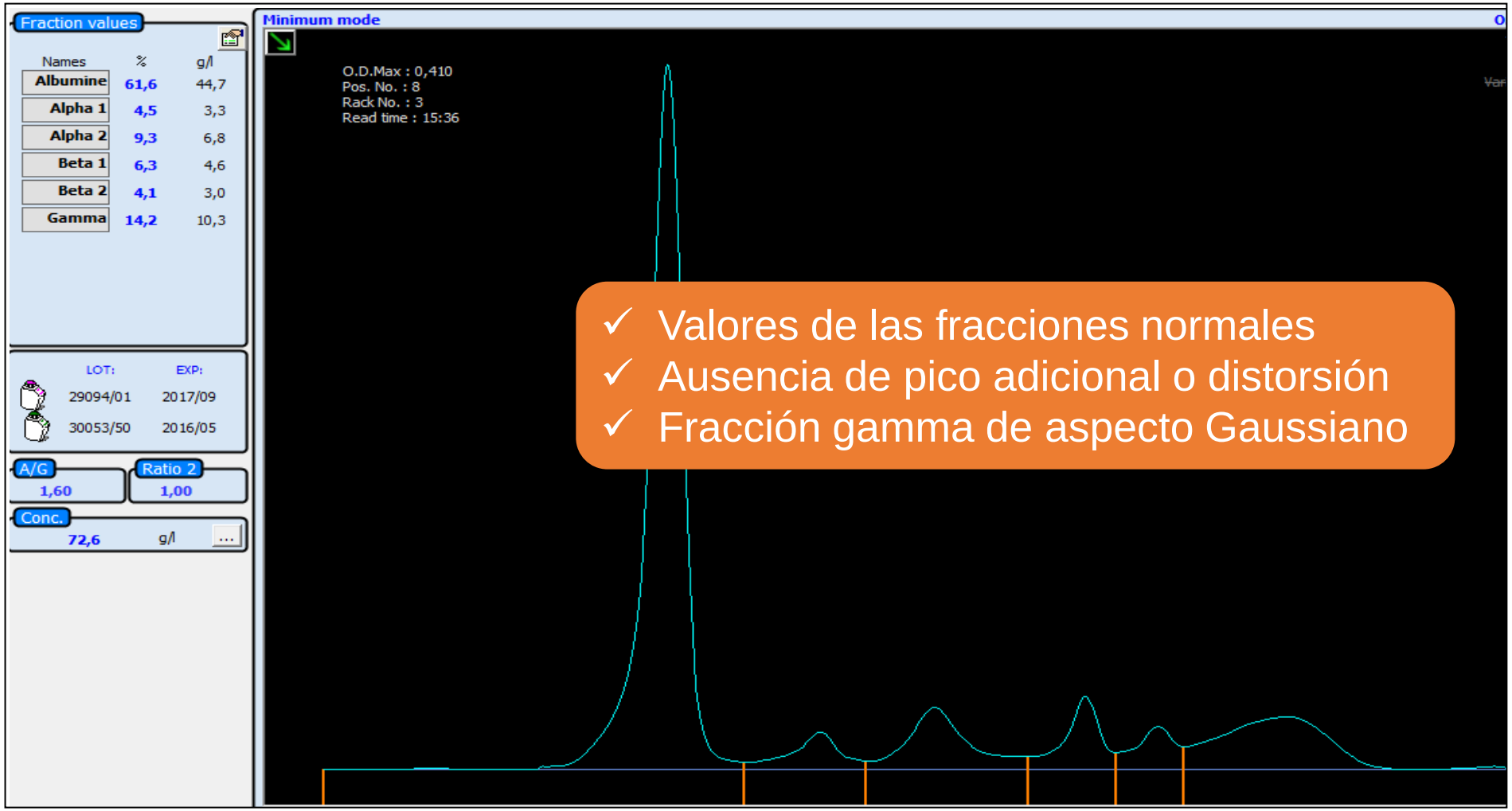




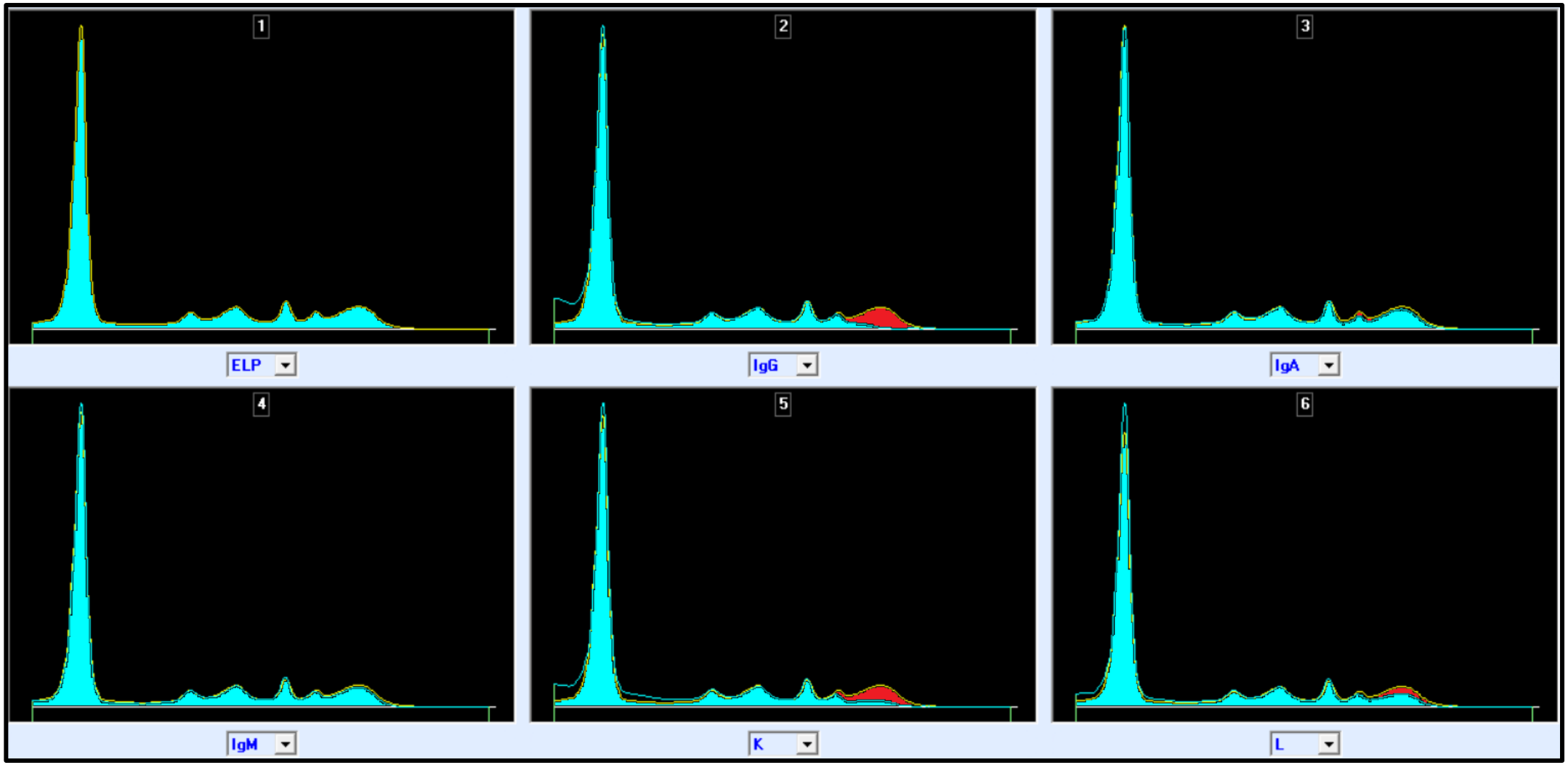




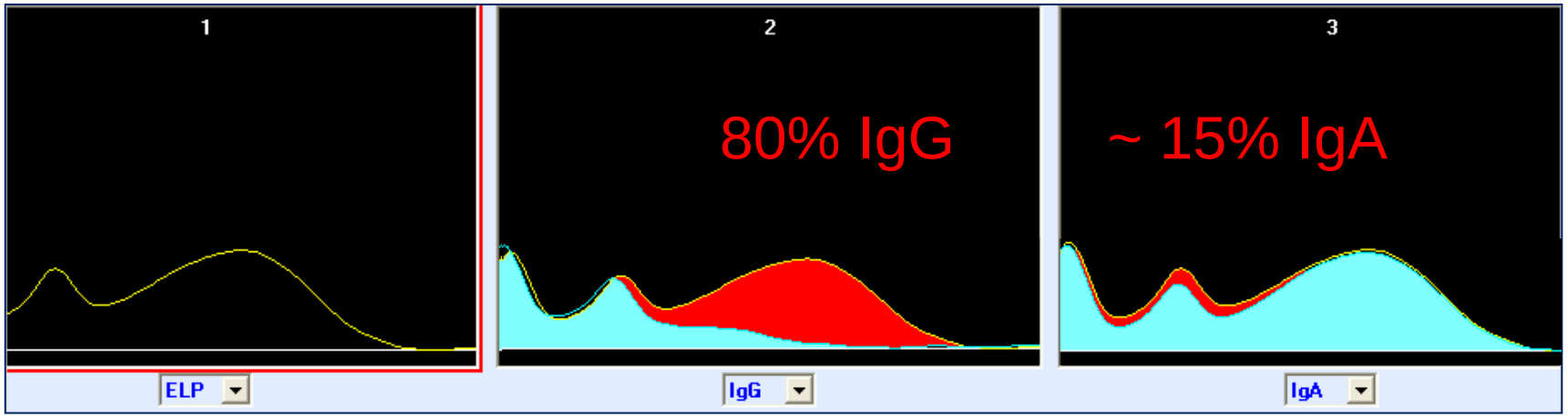
Suero normal

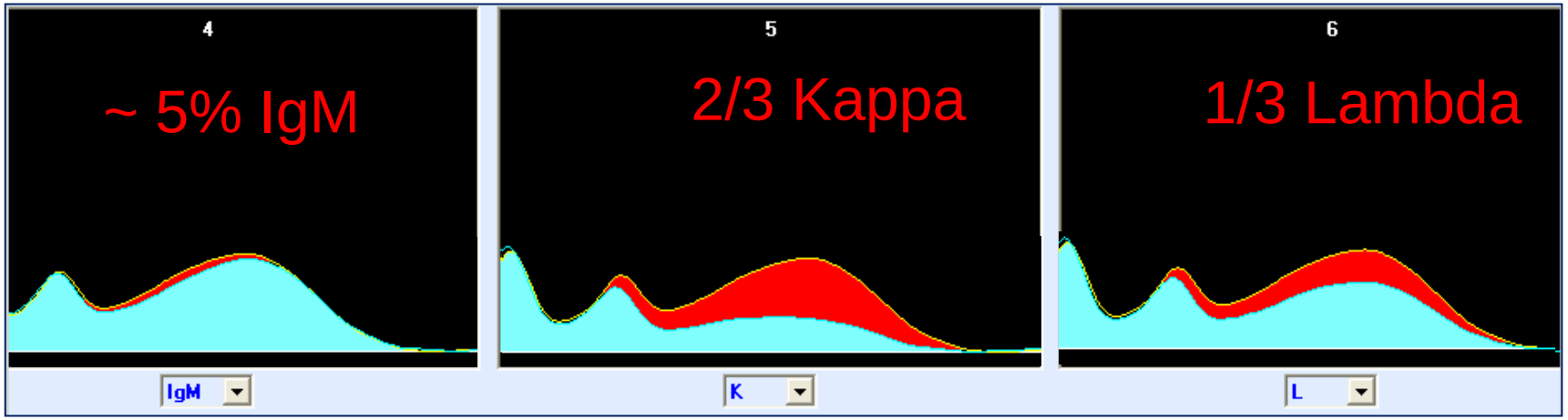


Suero normal

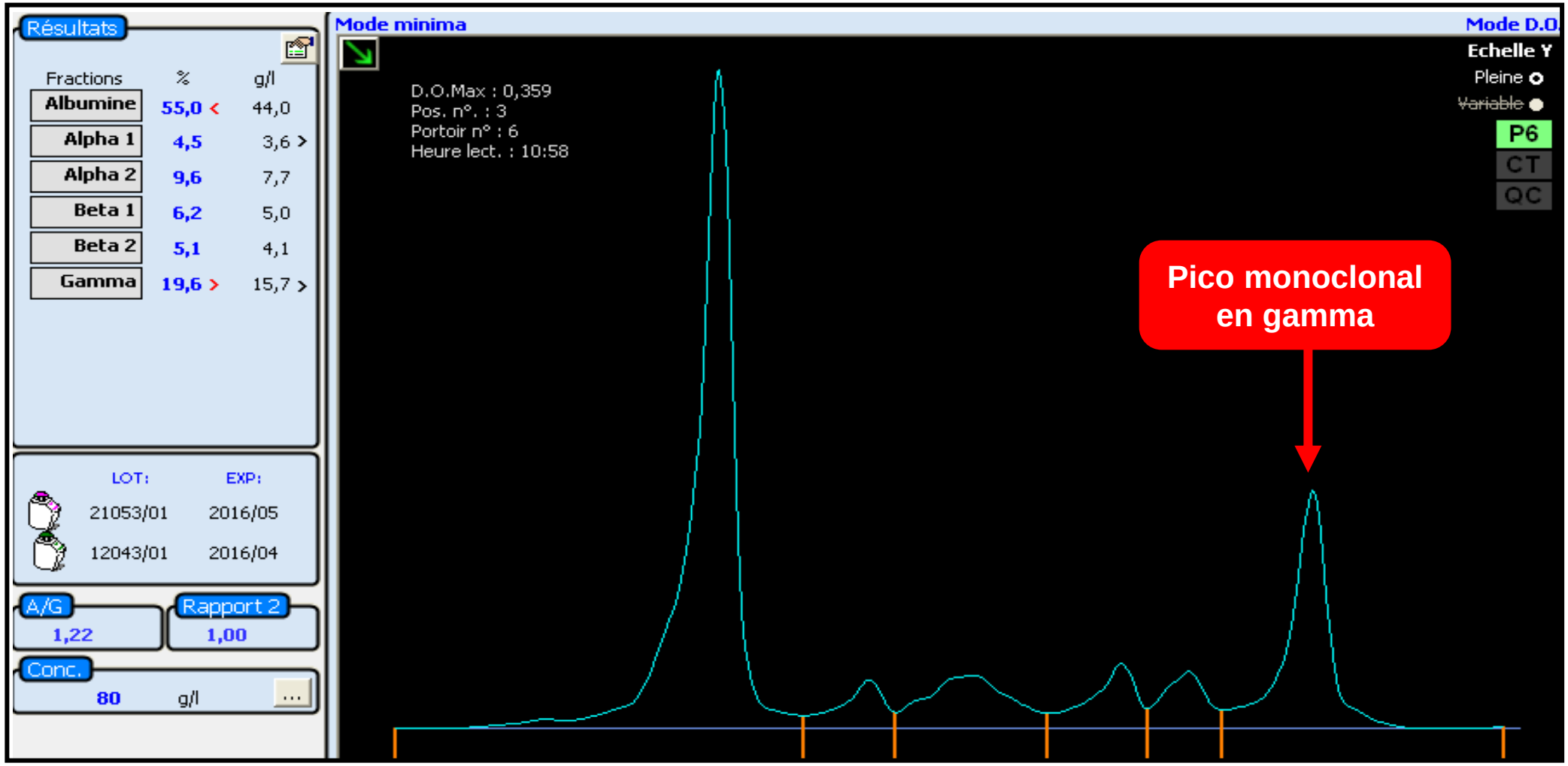


Suero normal (zoom x4)

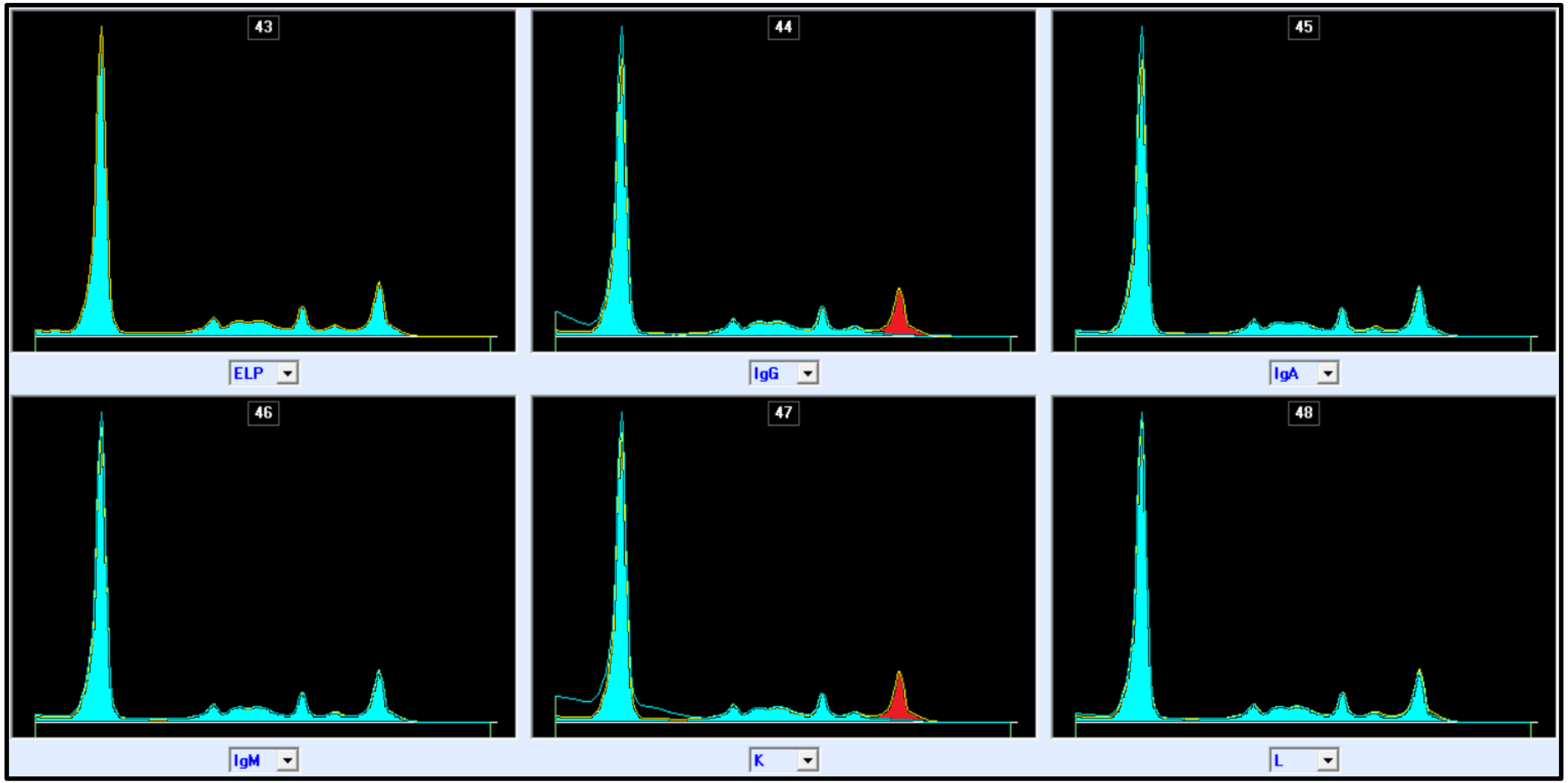




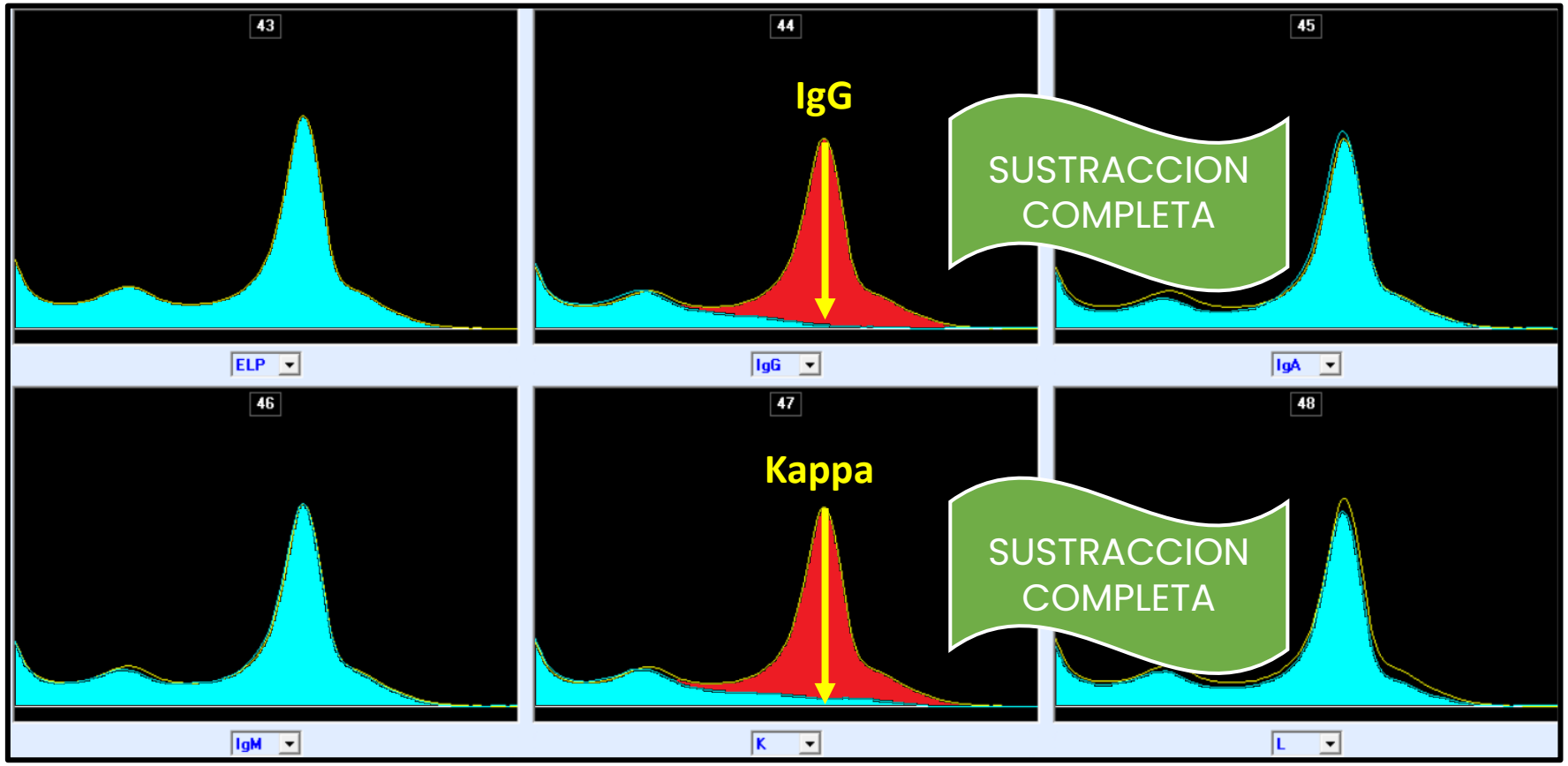
Electroforesis de proteinas



Immunotyping



Immunotyping (zoom x4)



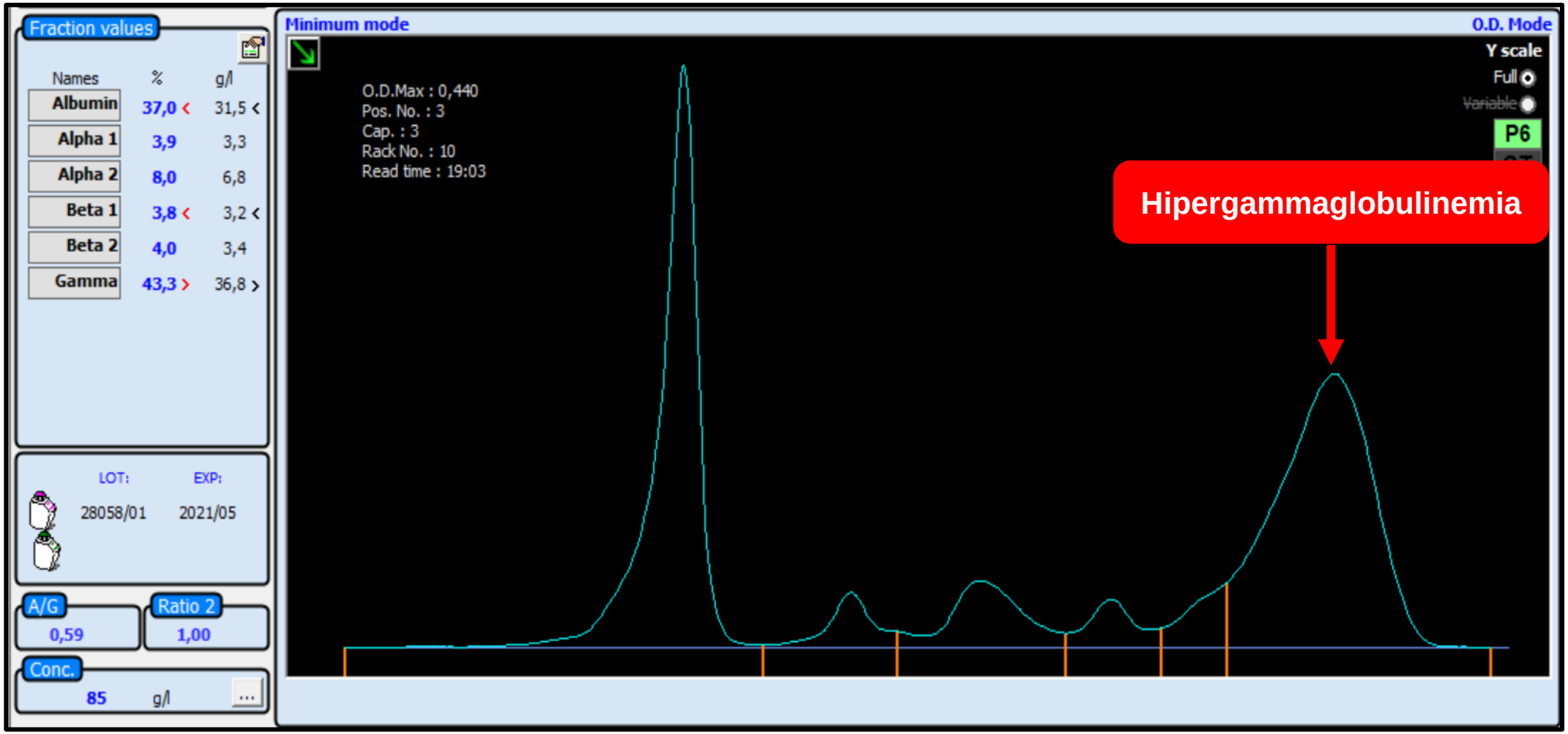
A. IgM Kappa

B. IgG Kappa

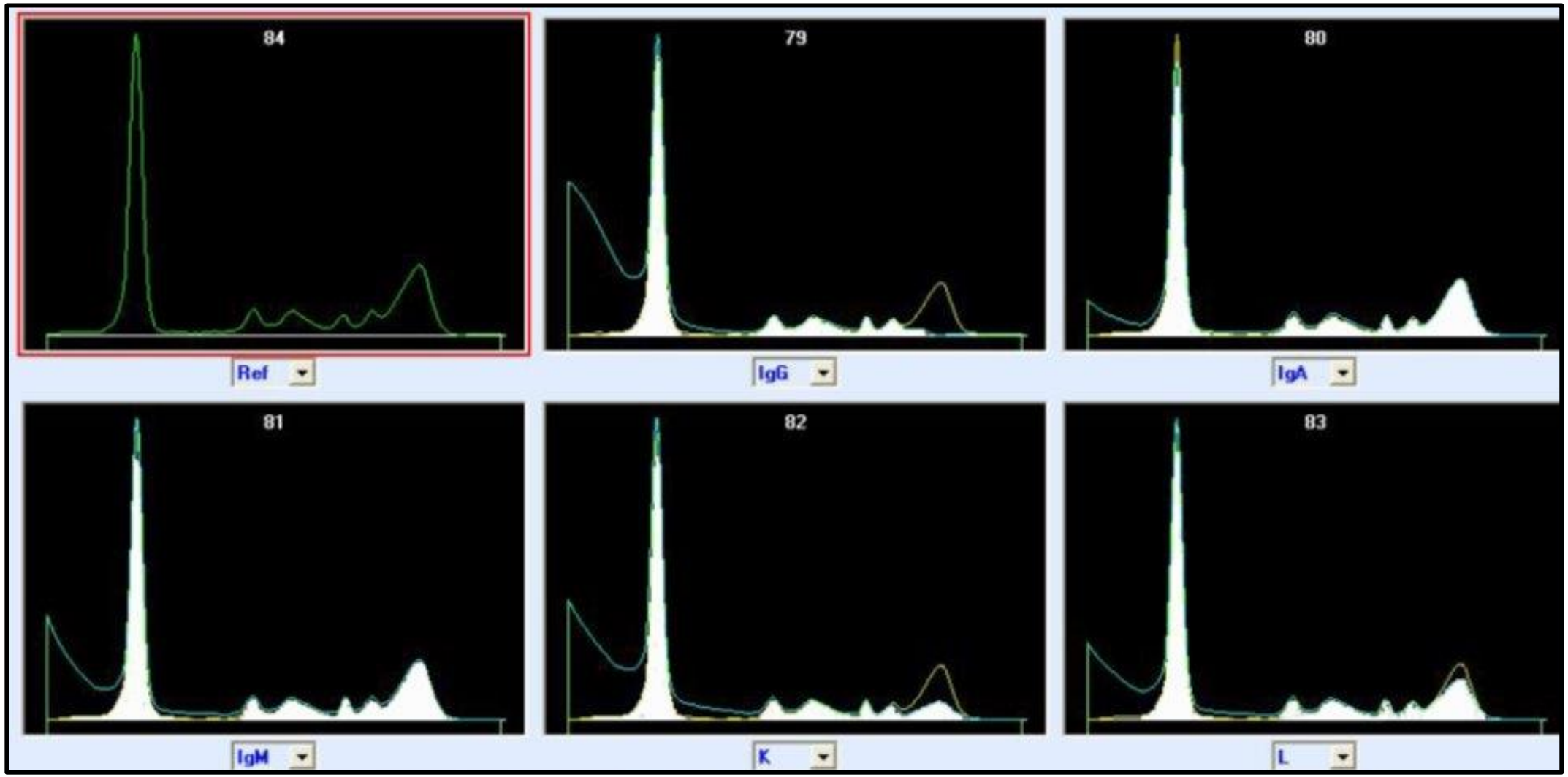
C. Cadenas livianas libres Kappa

D. IgG Kappa policlonal

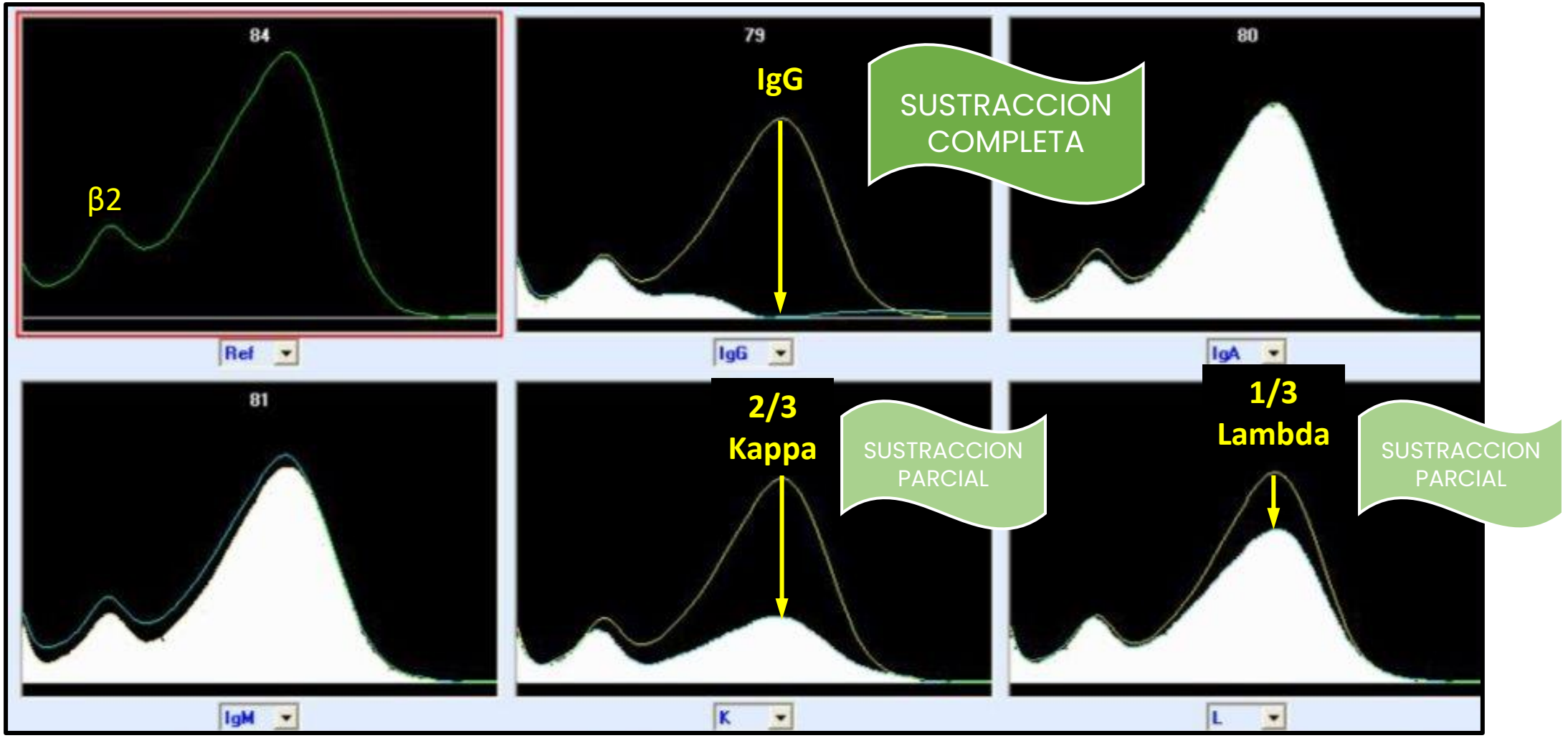
IgG policlonal



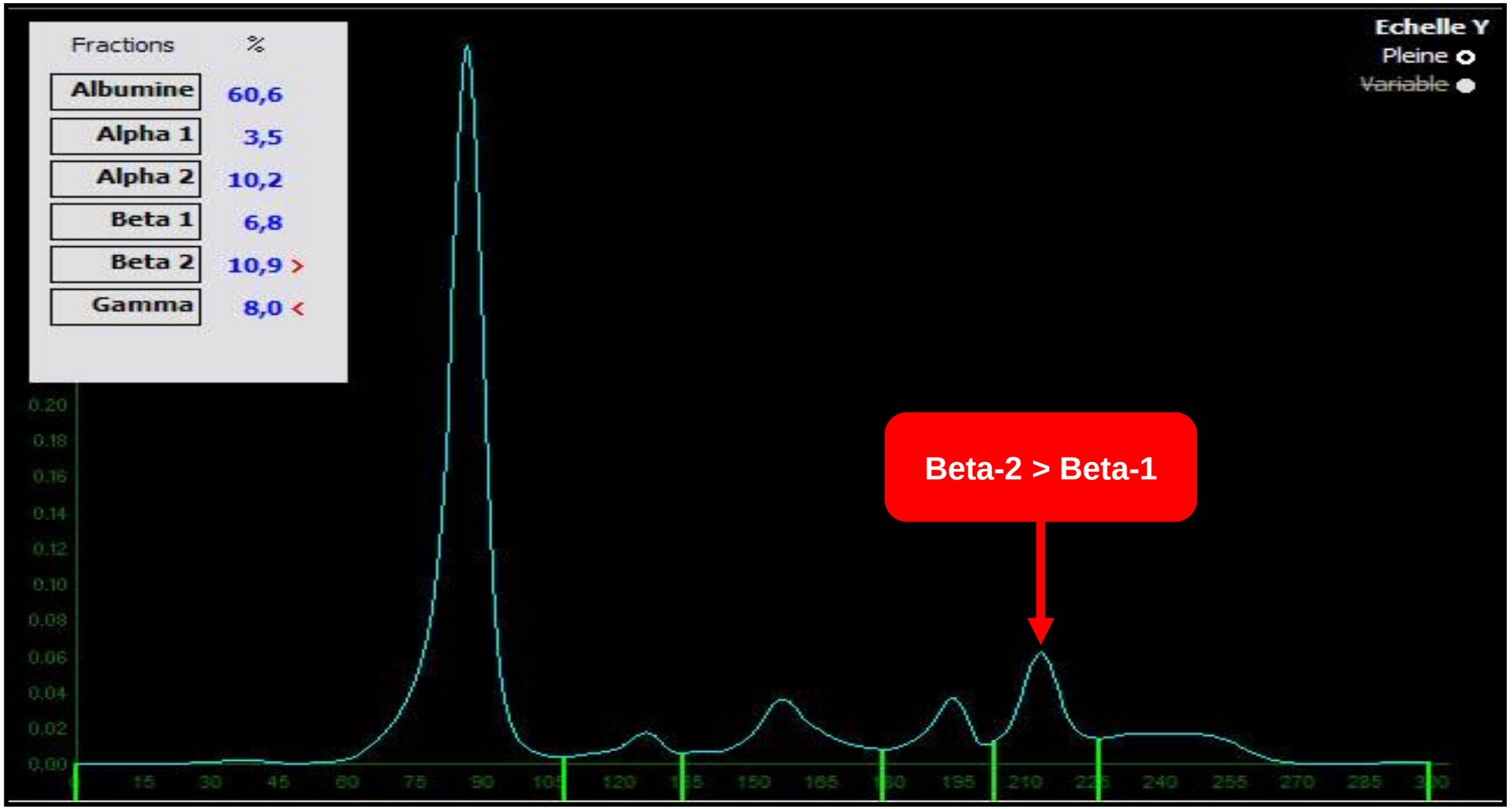
IgG policlonal



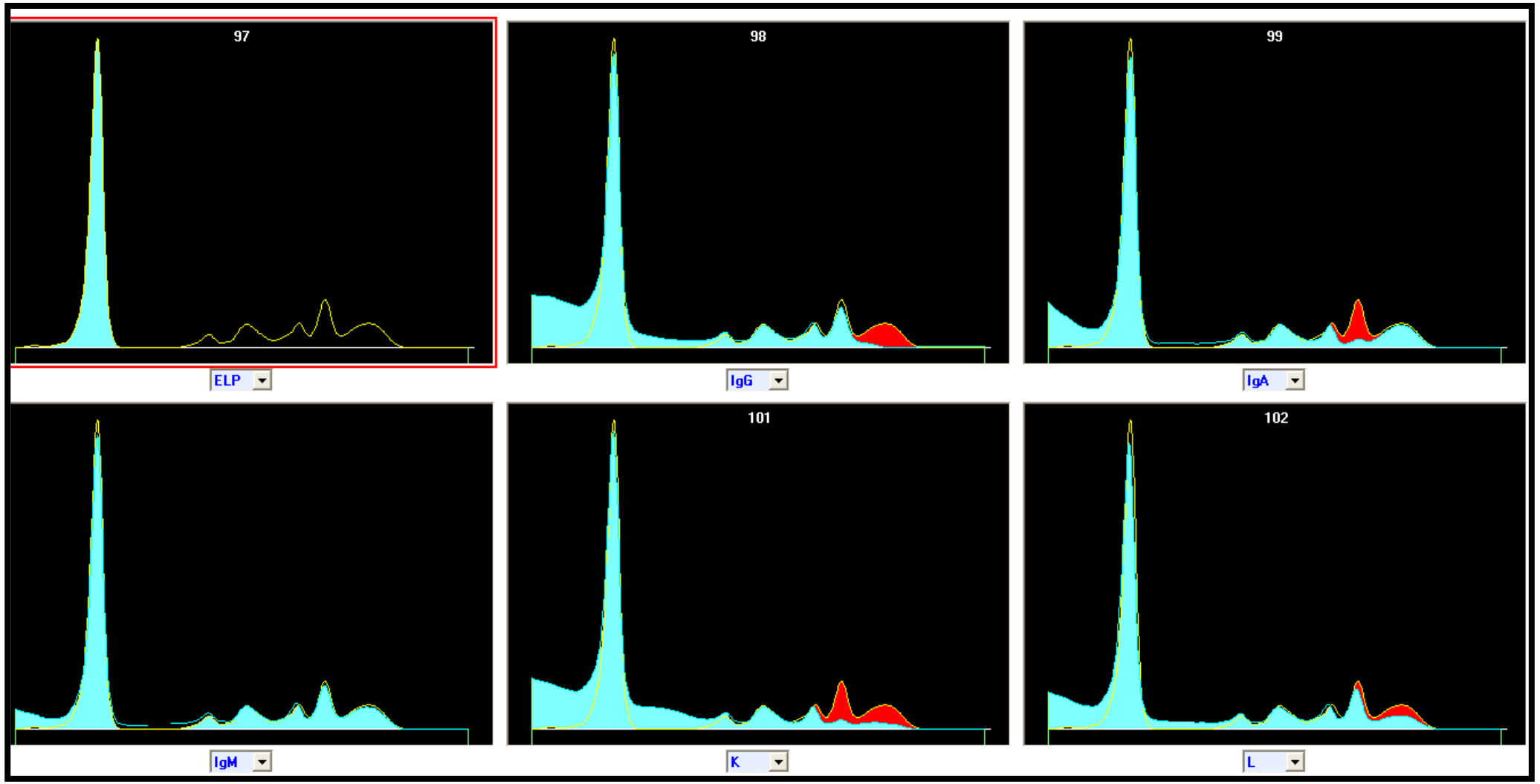
Aumento policlonal de IgG



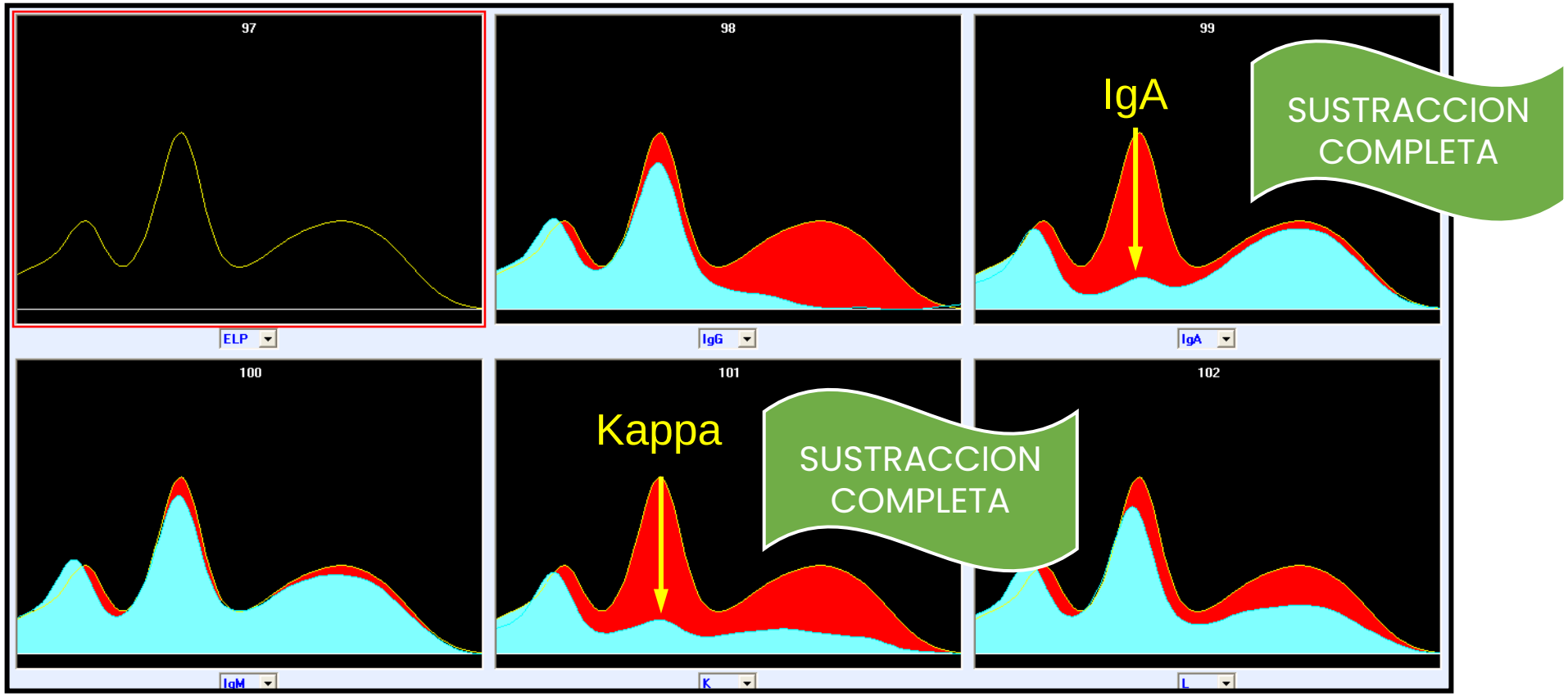
Electroforesis de proteinas



Immunotyping



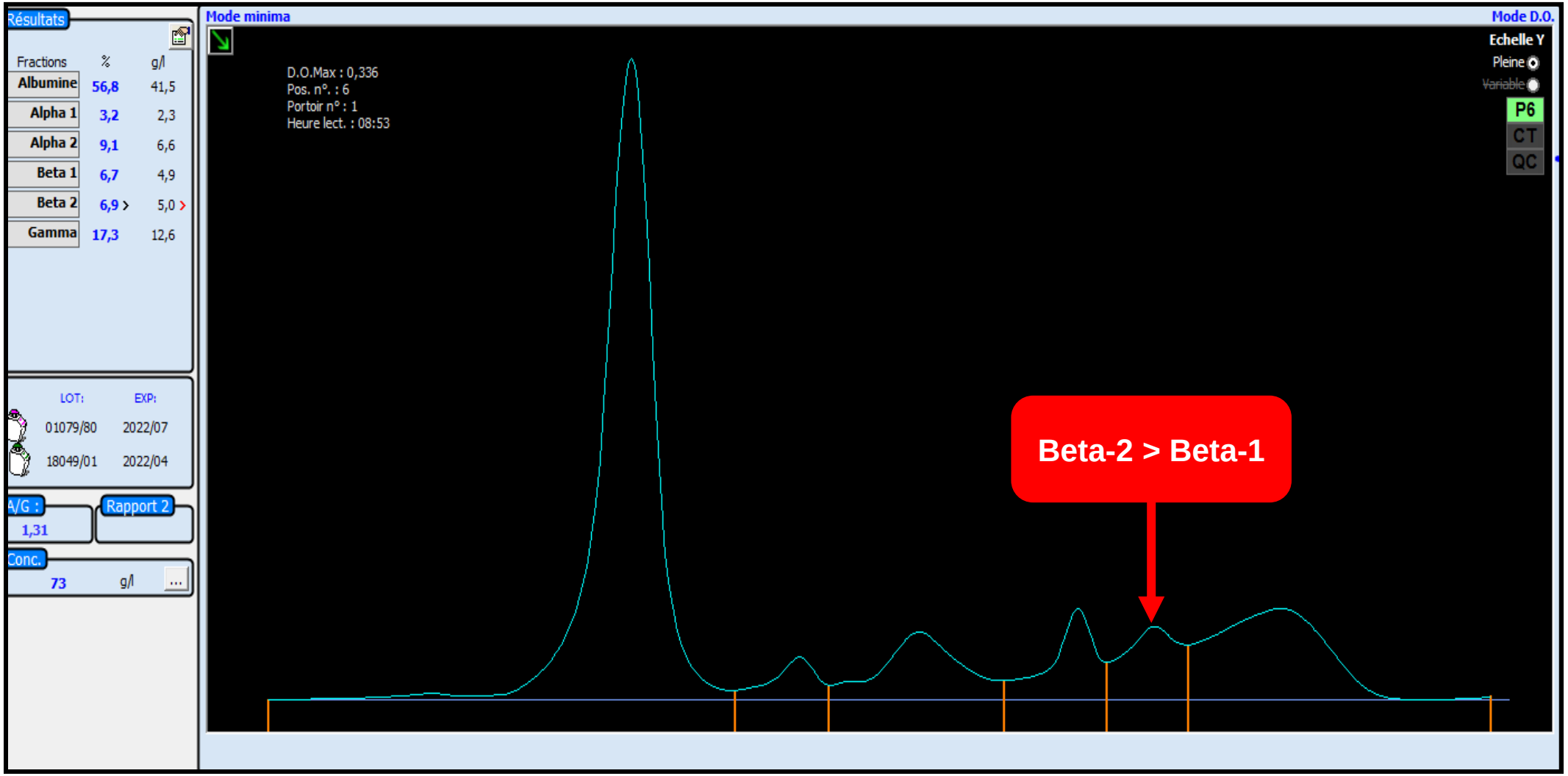
Immunotyping (zoom x4)



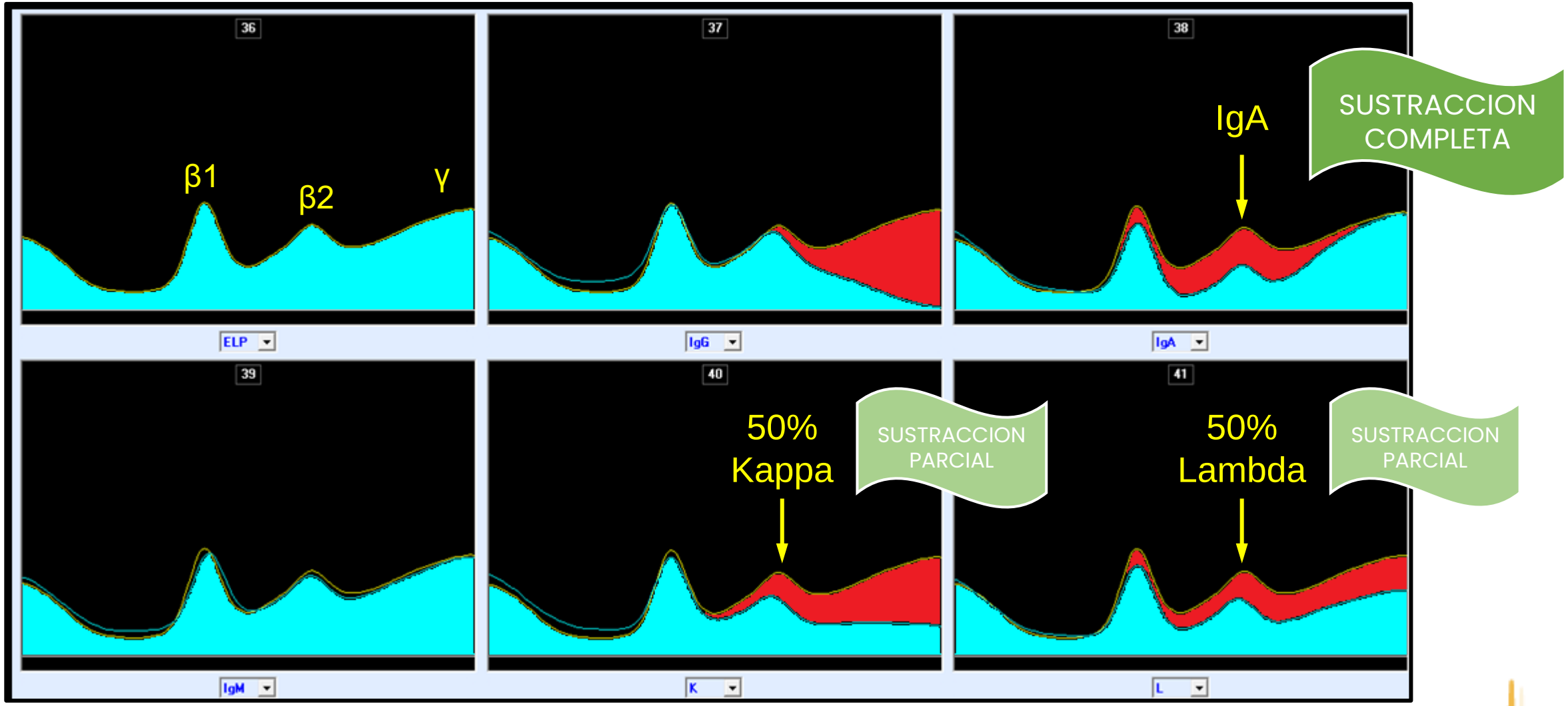
A. IgA policlonal

B. IgA monoclonal

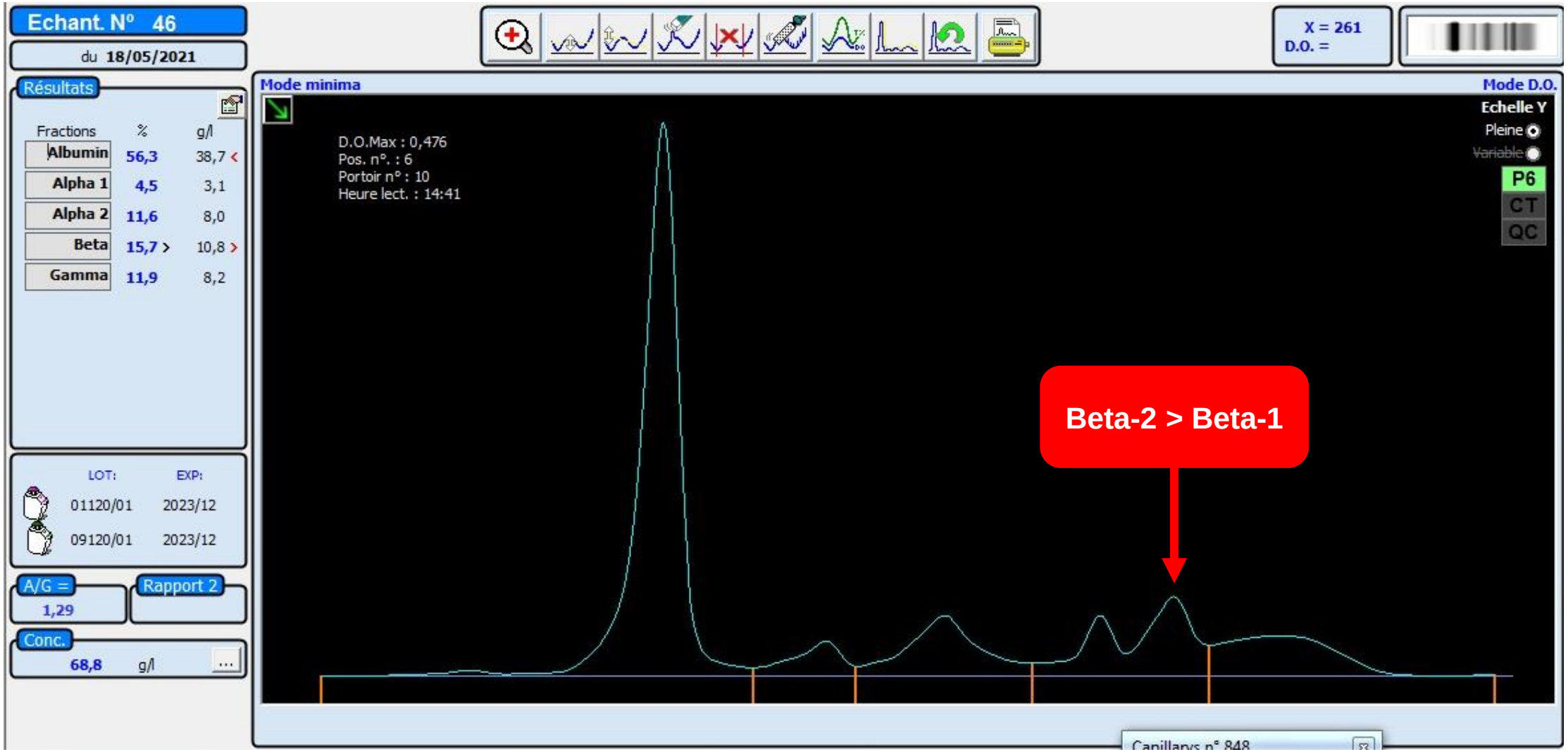
Electroforesis de proteinas



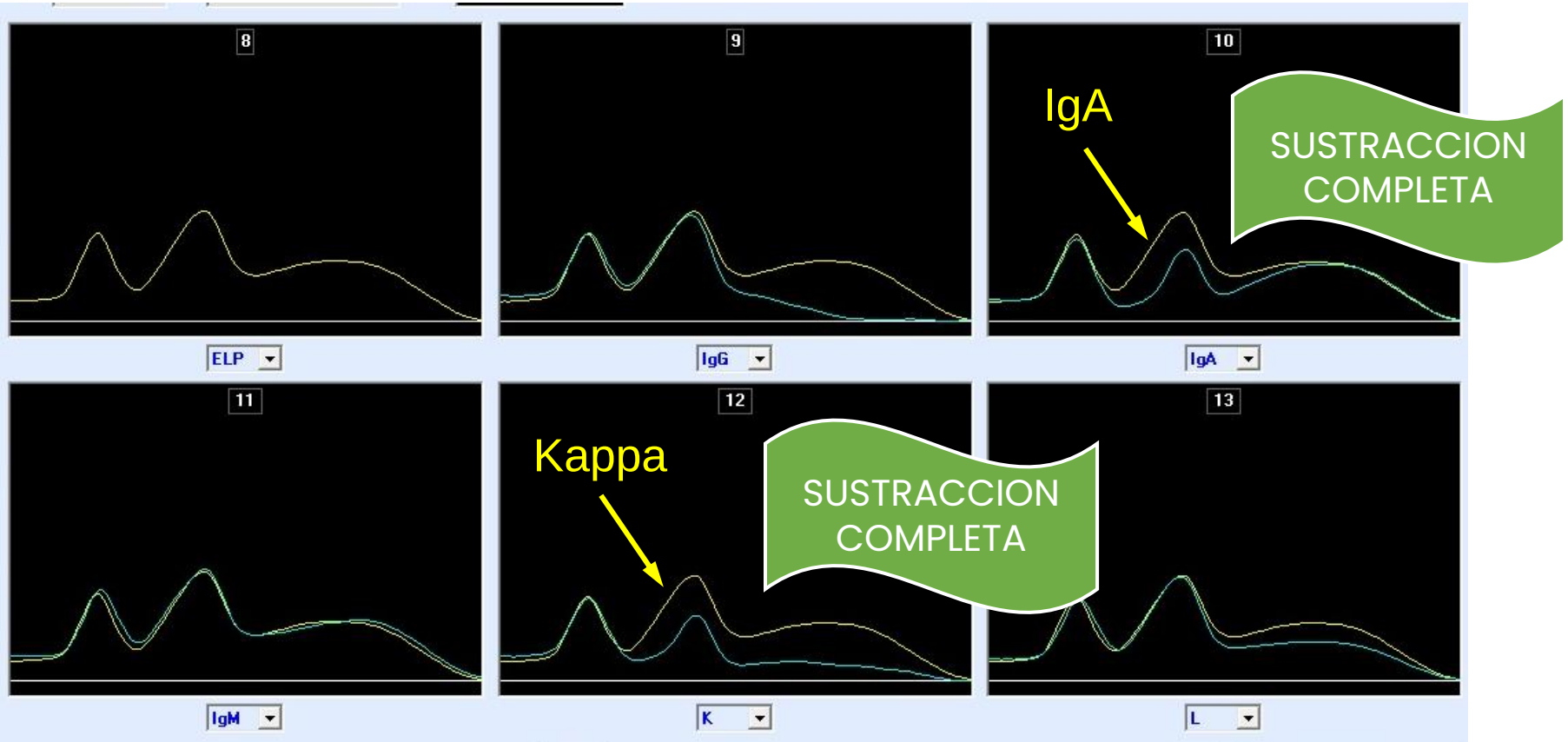
Immunotyping (zoom x4)



Electroforesis de proteinas



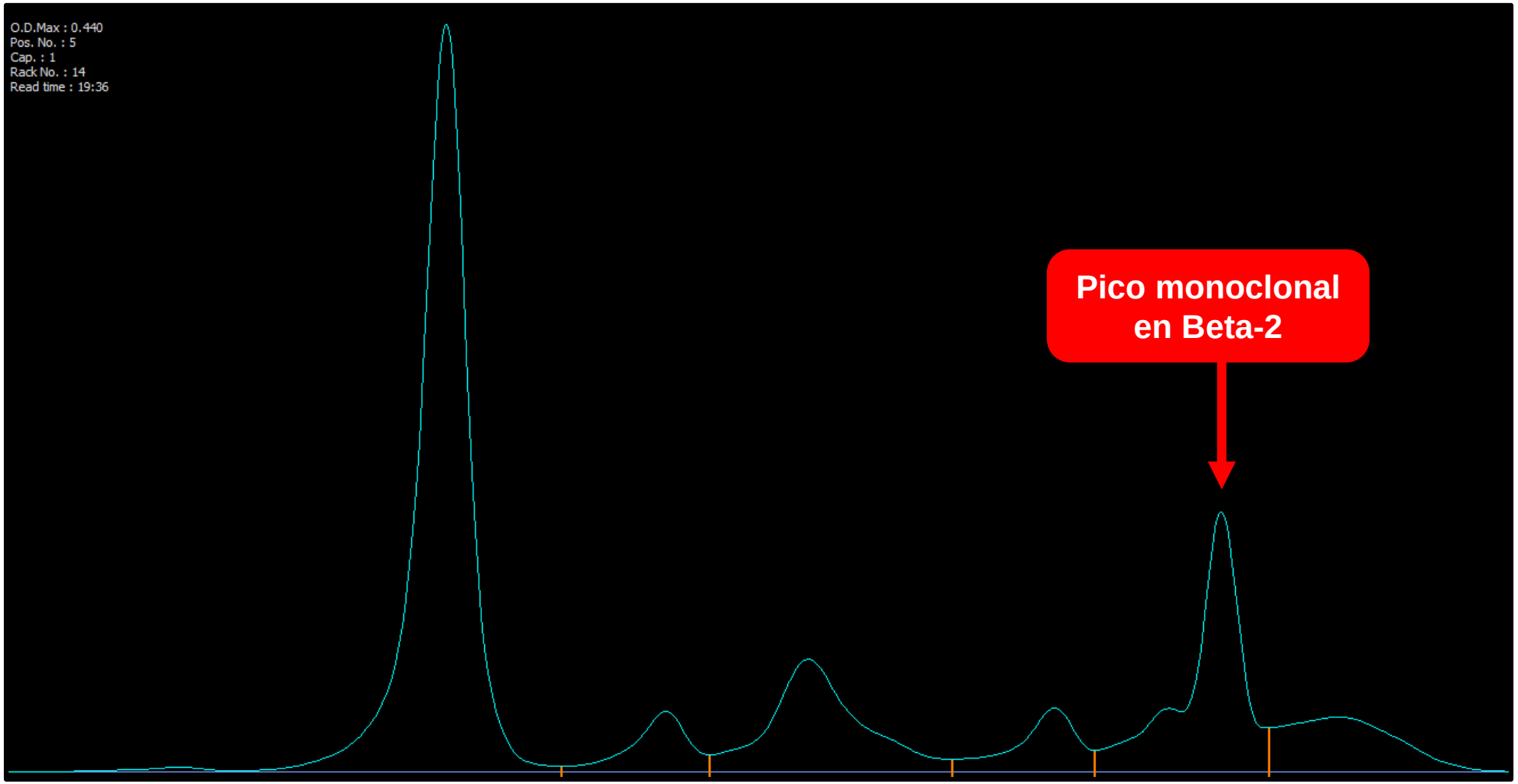
Immunotyping (zoom x4)



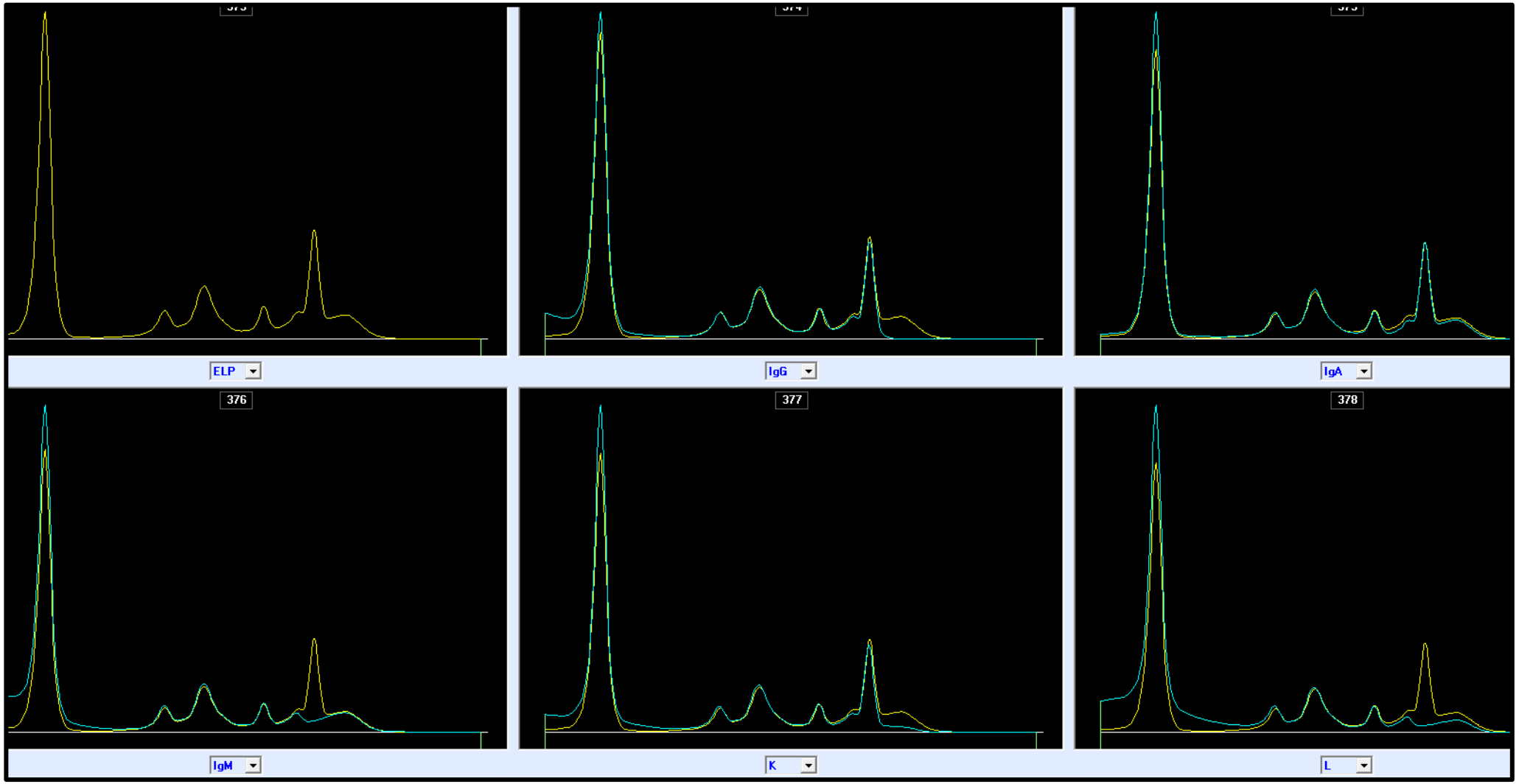
A. IgA policlonal

B. IgA monoclonal

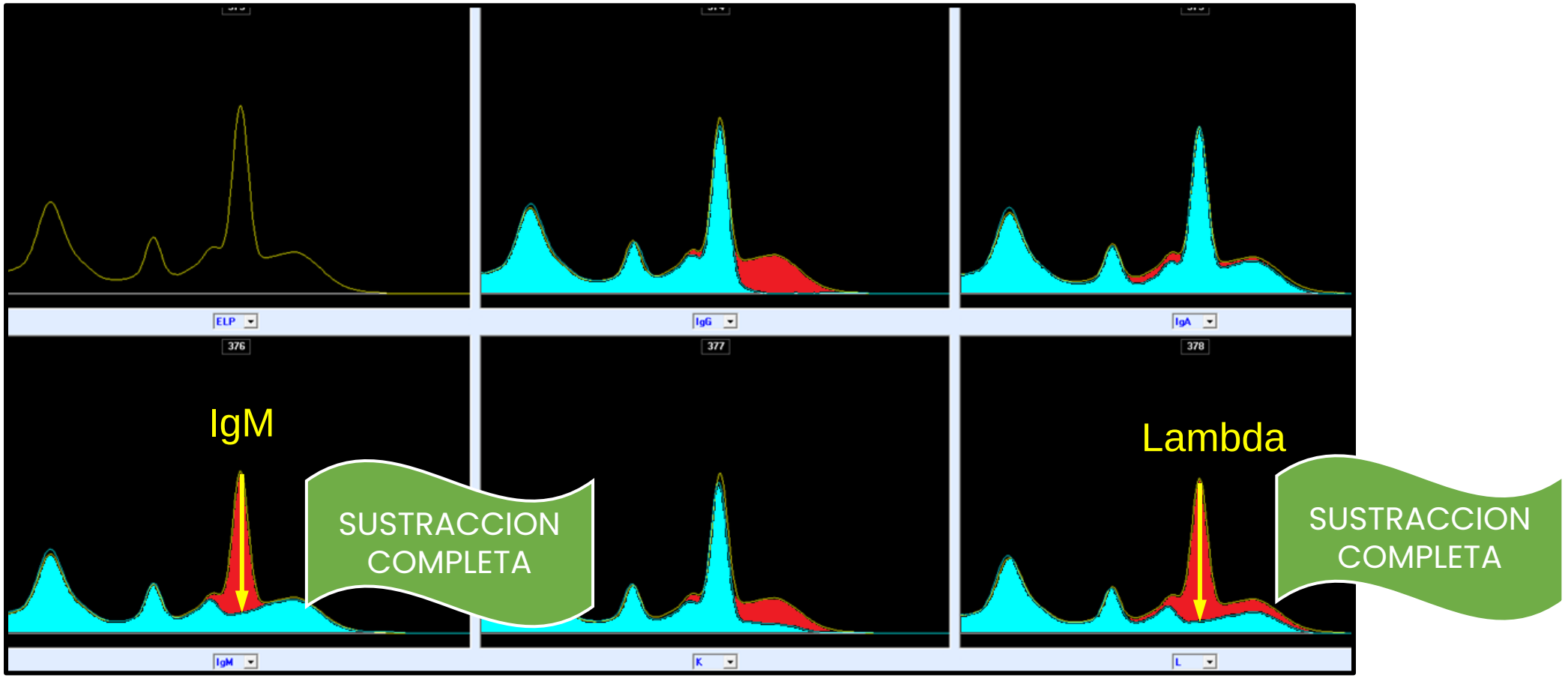
Electroforesis de proteinas



Immunotyping



Immunotyping (zoom x4)



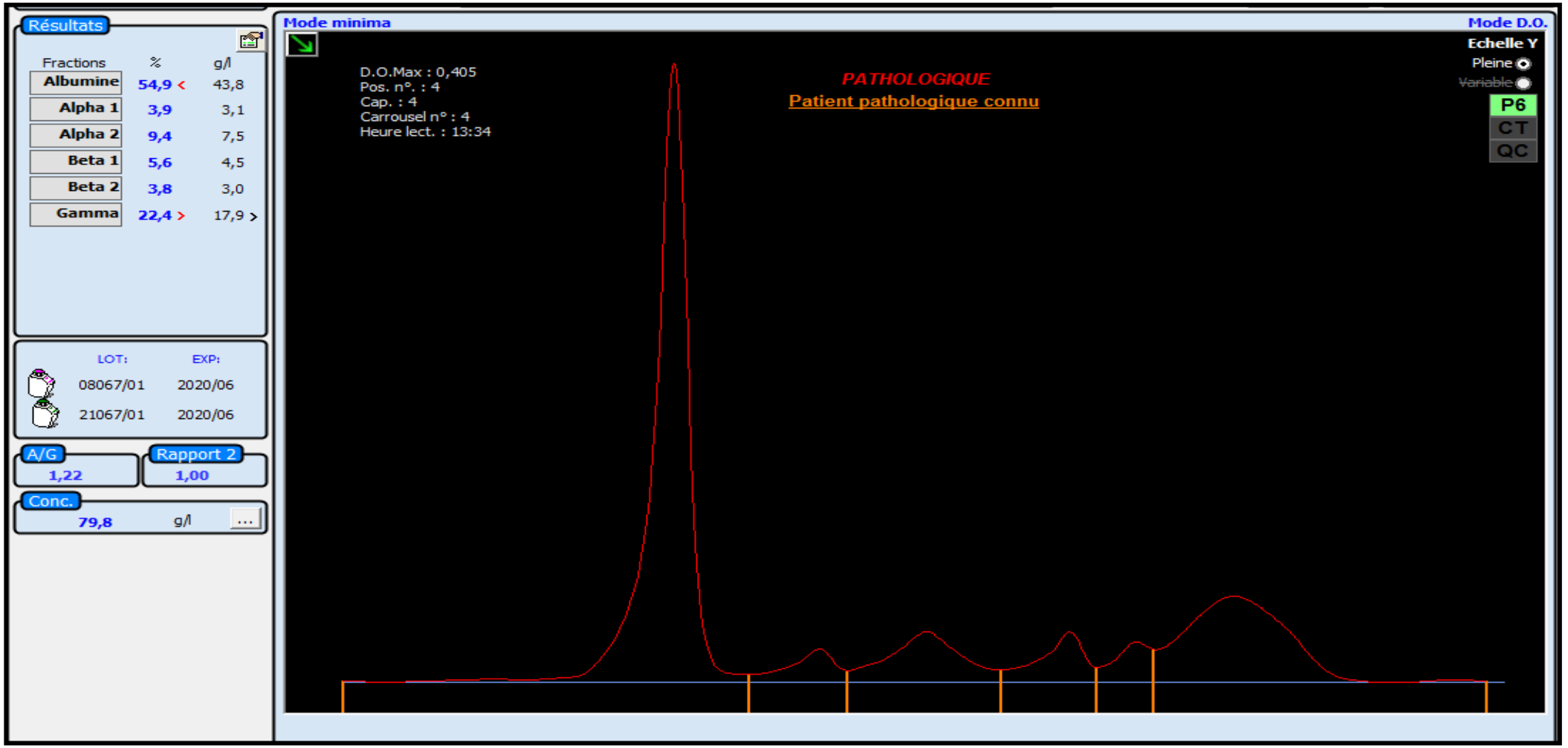
A. IgG Kappa

B. IgM Lambda

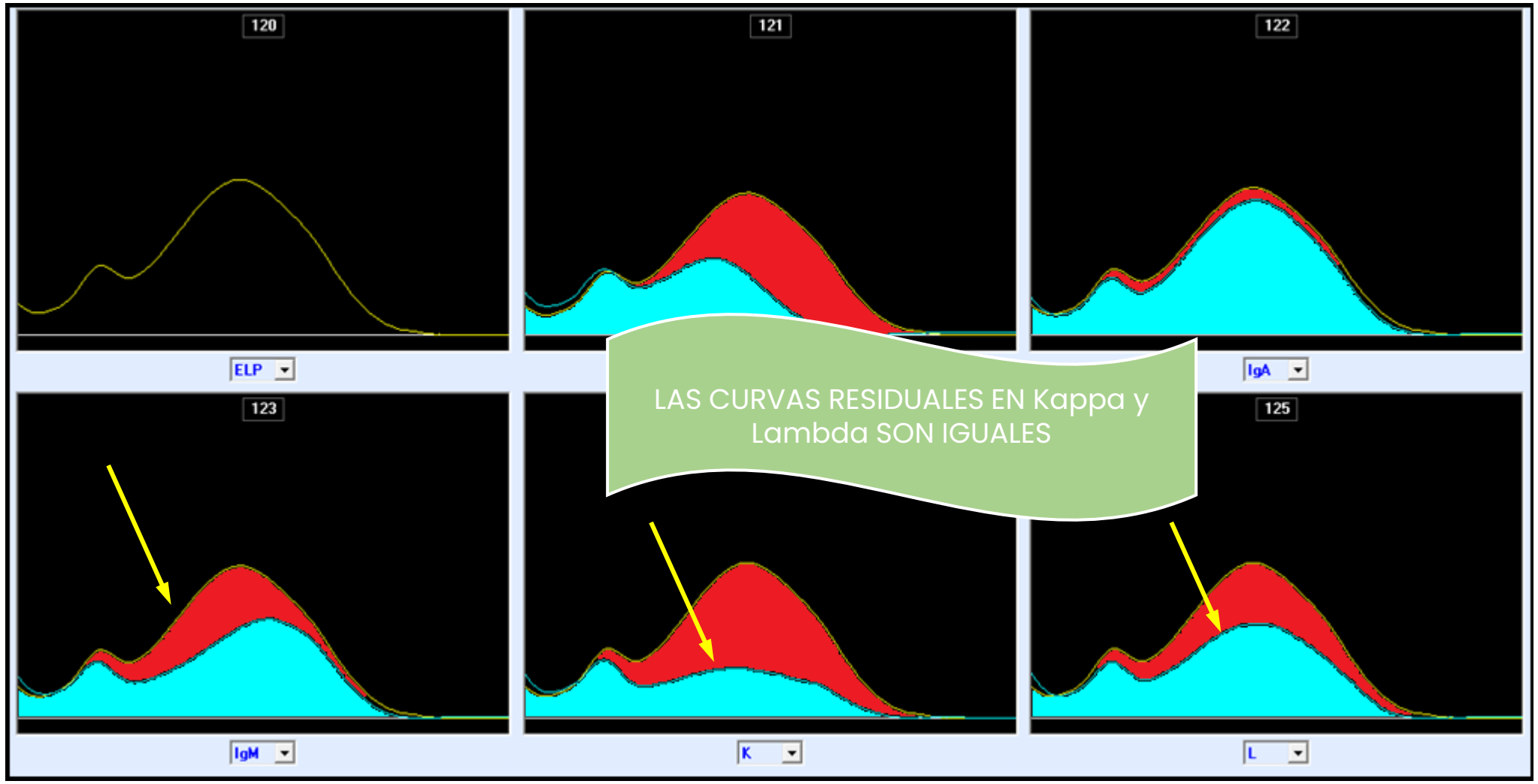
C. IgM Kappa

D. IgM policlonal

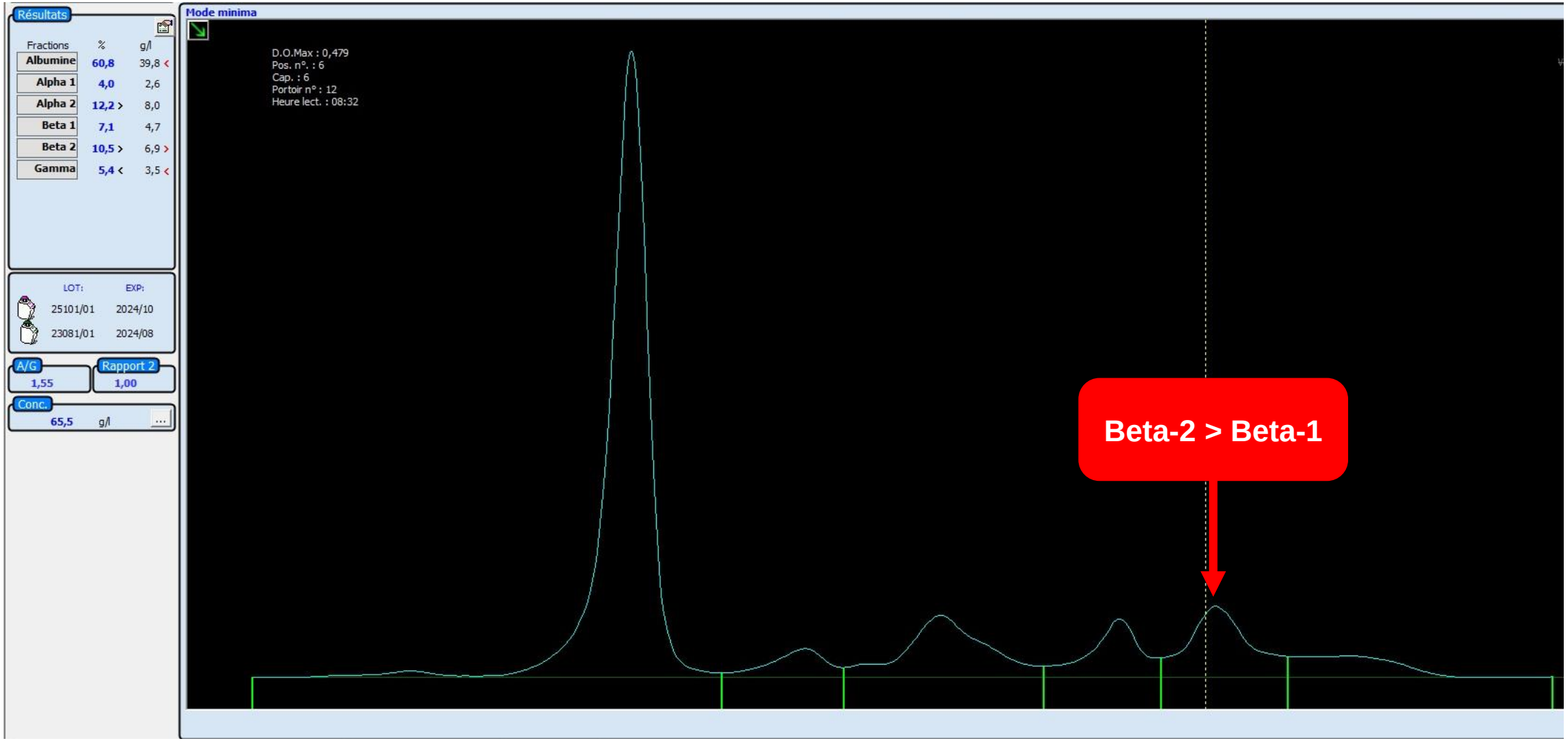
Electroforesis de proteinas



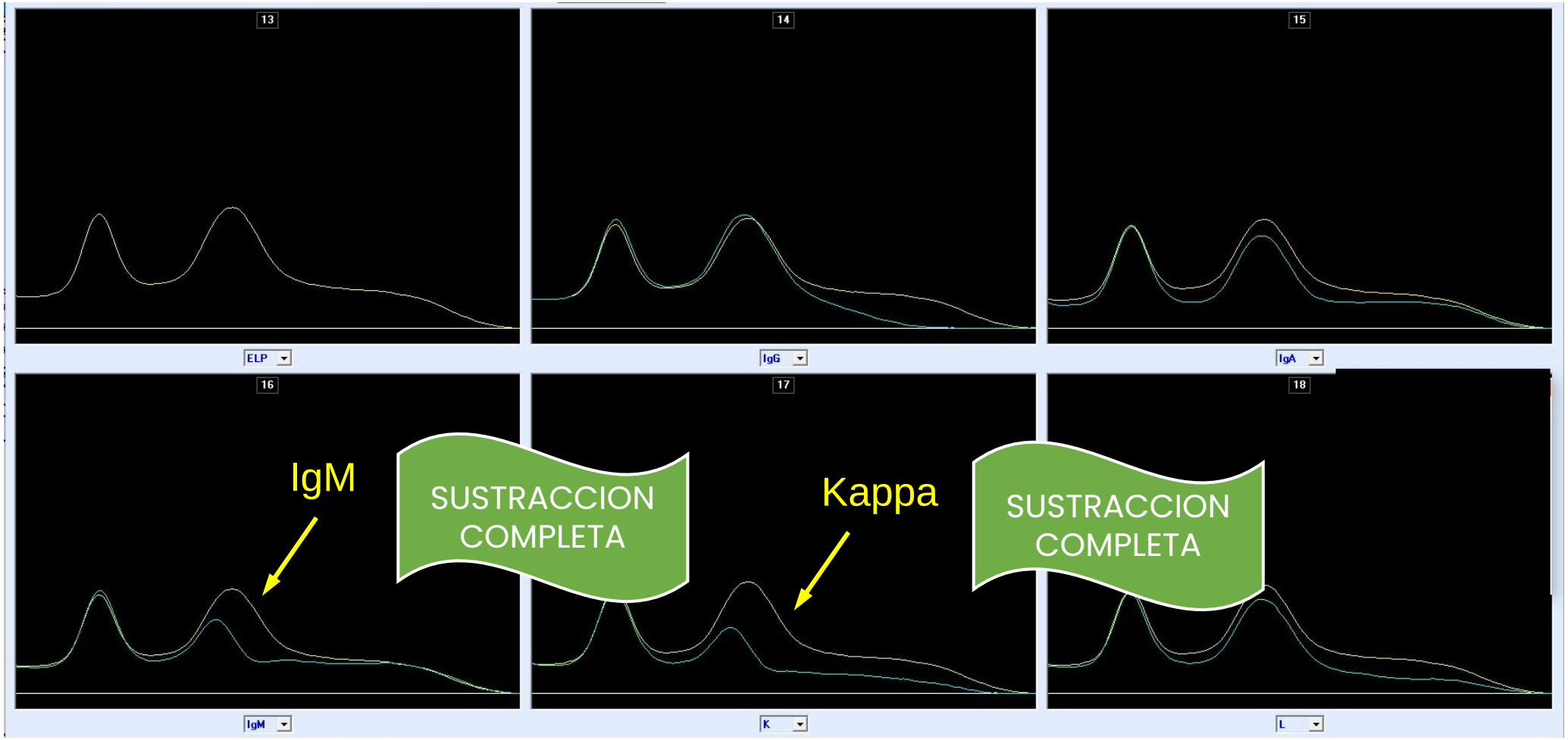
IgM policlonal



Electroforesis de proteinas



Immunotyping (zoom x4)

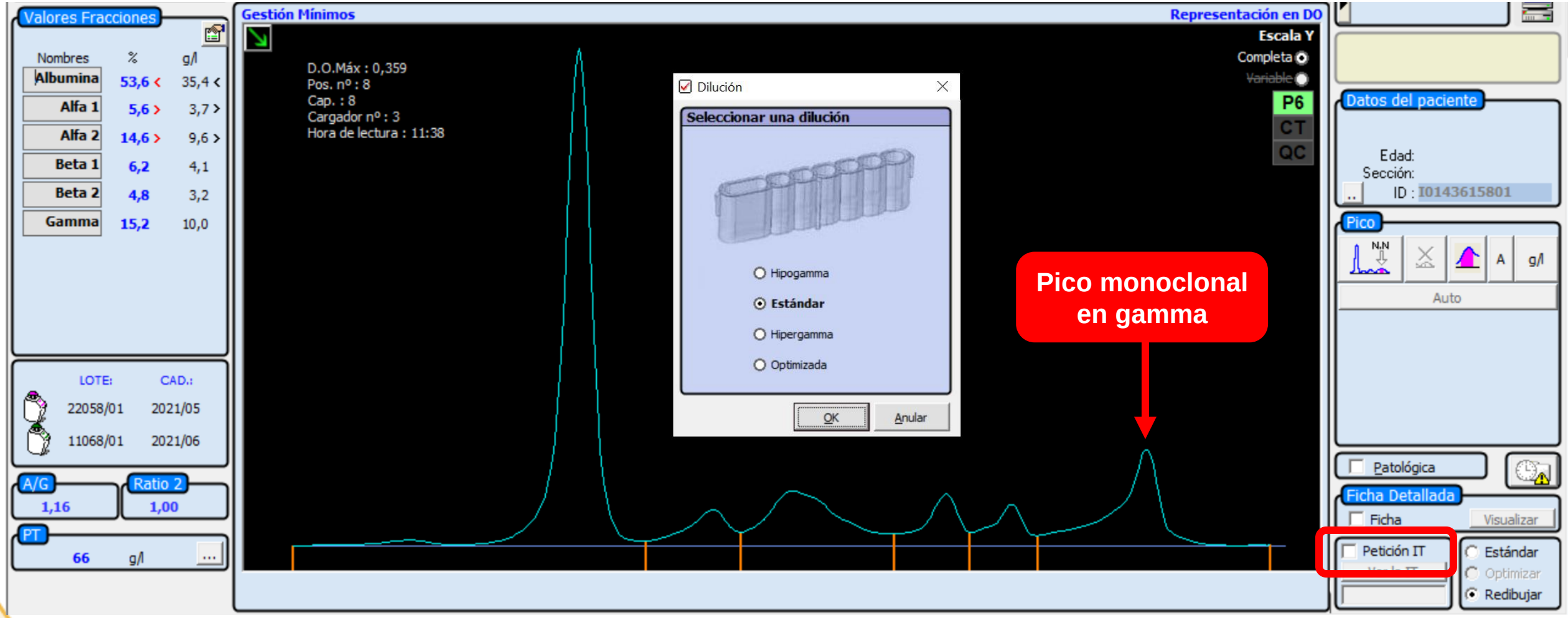


A. IgM policlonal

B. IgM monoclonal

		CADENAS PESADAS	CADENAS LIVIANAS
IgG	POLICLONAL	SUSTRACCION COMPLETA	SUSTRACCION PARCIAL — 2/3 Kappa 1/3 Lambda
	MONOCLONAL	SUSTRACCION COMPLETA	SUSTRACCION COMPLETA
IgA	POLICLONAL	SUSTRACCION COMPLETA	SUSTRACCION PARCIAL — 50% Kappa 50% Lambda
	MONOCLONAL	SUSTRACCION COMPLETA	SUSTRACCION COMPLETA
IgM	POLICLONAL	SUSTRACCION COMPLETA	SUSTRACCION PARCIAL — Curvas residuales iguales
	MONOCLONAL	SUSTRACCION COMPLETA	SUSTRACCION COMPLETA

Dilucion IT


Valores Fracciones
Nombres
%
g/l
Albumina
53,6 <
35,4 <
Alfa 1
5,6 >
3,7 >
Alfa 2
14,6 >
9,6 >
Beta 1
6,2
4,1
Beta 2
4,8
3,2
Gamma
15,2
10,0
LOTE:
CAD.:
22058/01
2021/05
11068/01
2021/06
A/G
1,16
Ratio 2
1,00
PT
66
g/l
Gestión Mínimos
D.O.Máx : 0,359
Pos. nº : 8
Cap. : 8
Cargador nº : 3
Hora de lectura : 11:38
Dilución
Seleccionar una dilución
Hipogamma
Estándar
Hipergamma
Optimizada
OK
Anular
Representación en DO
Escala Y
Completa
Variable
P6
CT
QC
Pico monoclonal en gamma
Datos del paciente
Edad:
Sección:
ID : I0143615801
Pico
N.N
A
g/l
Auto
Patológica
Ficha Detallada
Ficha
Visualizar
Petición IT
Estándar
Optimizar
Redibujar

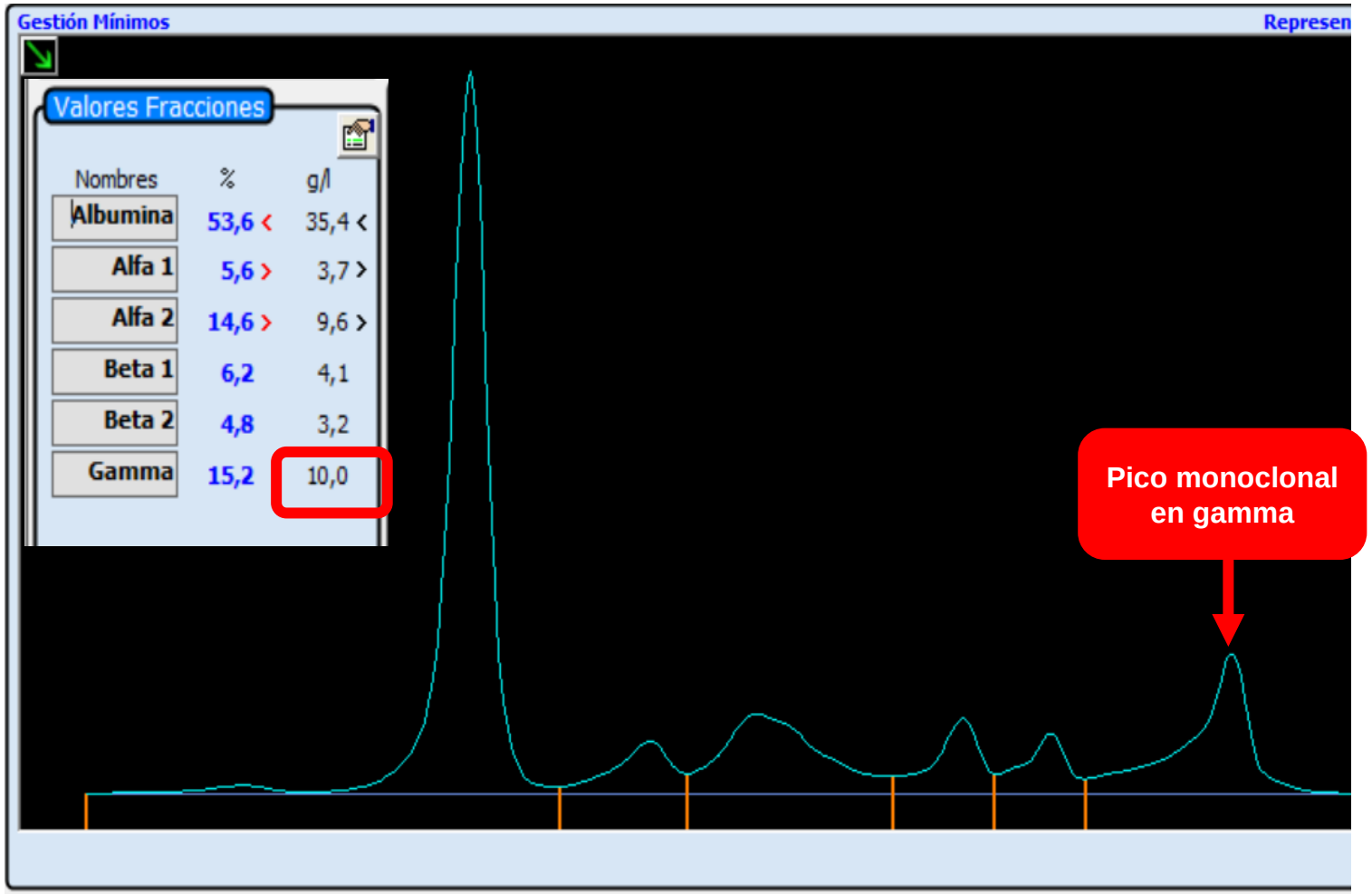
Opciones de dilucion IT

La elección de la dilución depende de la **concentración total de inmunoglobulinas** presentes en la muestra:

OPCIONES DE DILUCION

- **Hipogamma** Ig < 8 g/L
- **Estándar** Ig 8-20 g/L
- **Hipergamma** Ig > 20 g/L

Dilucion IT



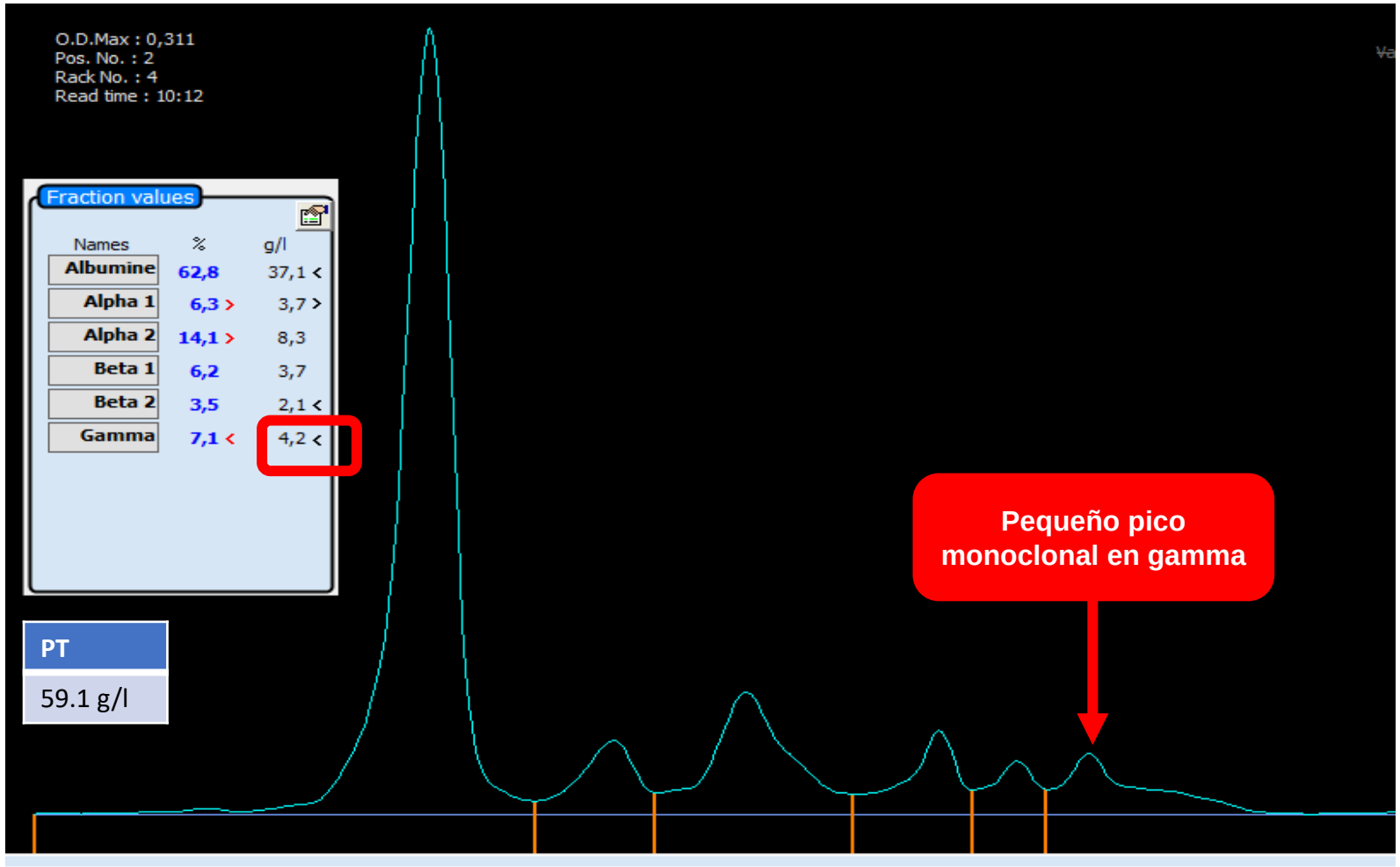
Concentración total de Ig = 10 g/L

OPCIONES DE DILUCION

- Hipogamma Ig < 8 g/L
- Estándar Ig 8-20 g/L
- Hipergamma Ig > 20 g/L

DILUCION ESTANDAR

Dilucion IT



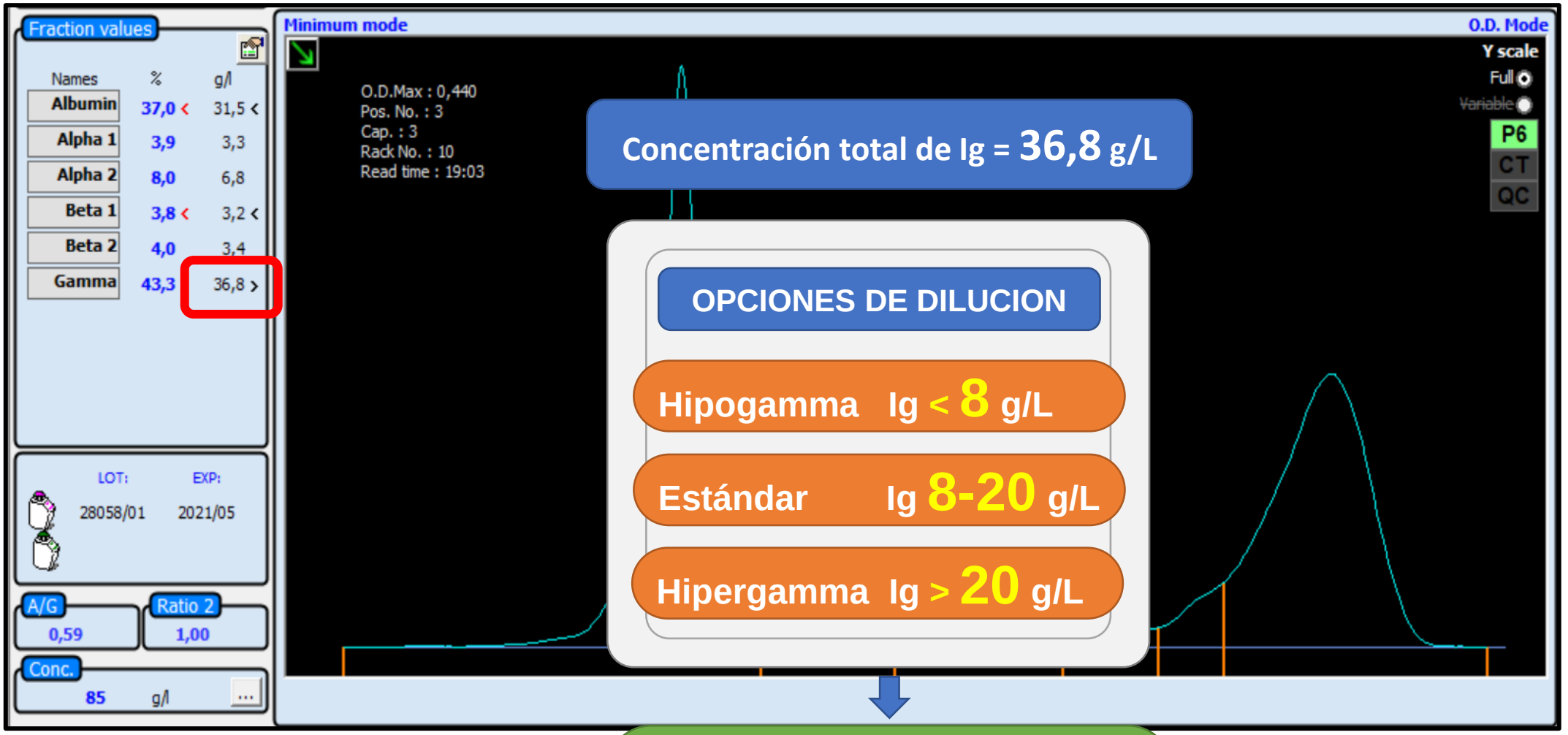
Concentración total de Ig = 4,2 g/L

OPCIONES DE DILUCION

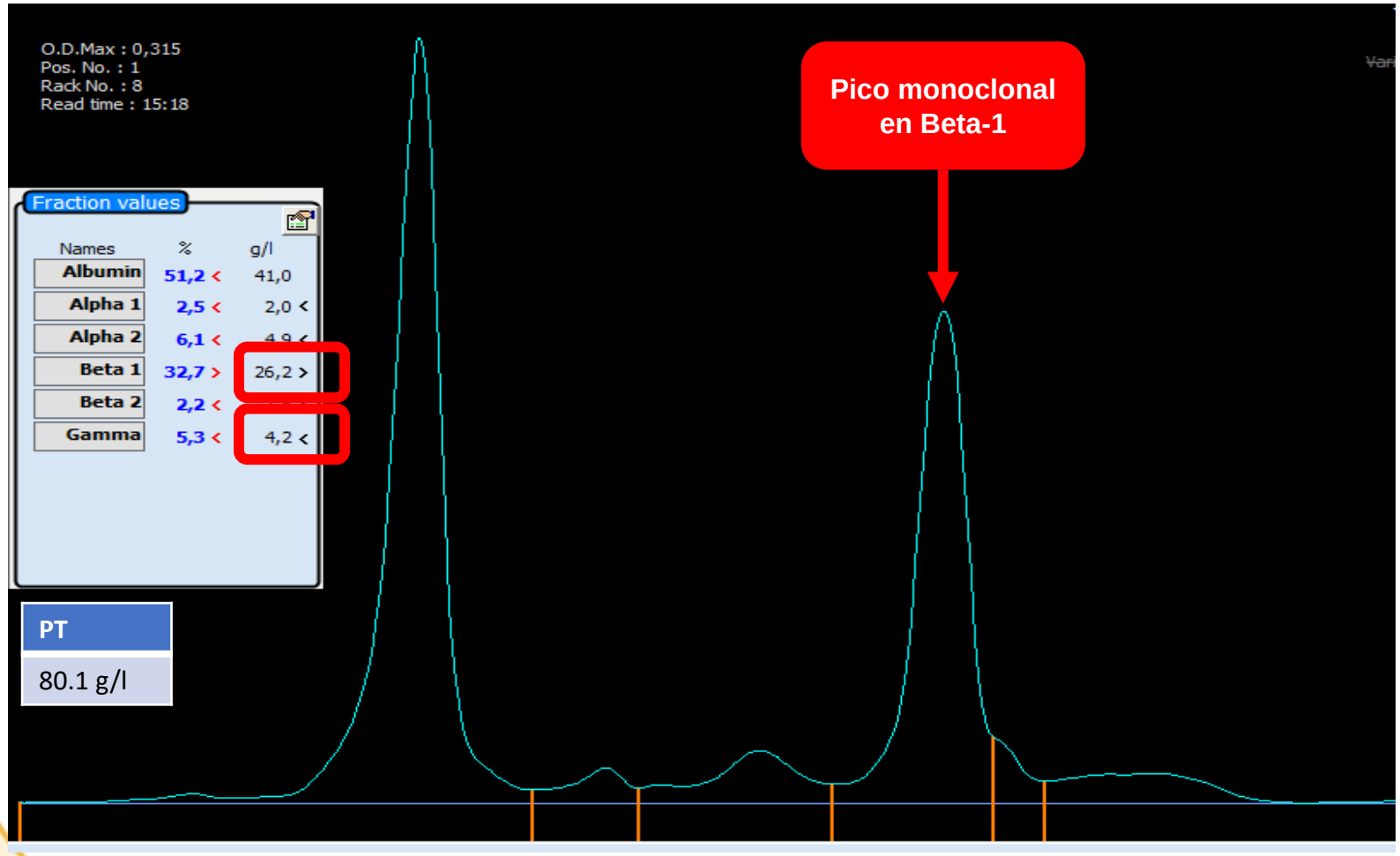
- **Hipogamma** Ig < 8 g/L
- **Estándar** Ig 8-20 g/L
- **Hipergamma** Ig > 20 g/L

DILUCION HIPOGAMMA

¿Qué dilucion escogeria?



¿Qué dilucion escogeria?



Concentración total de Ig = 30,4 g/L

OPCIONES DE DILUCION

- **Hipogamma** Ig < 8 g/L
- **Estándar** Ig 8-20 g/L
- **Hipergamma** Ig > 20 g/L

DILUCION HIPERGAMMA

Errores en la elección de la dilución

DILUCION MAS BAJA

DILUCION MAS ALTA

No habrá suficiente ANTISUERO para formar los inmunocomplejos

↓

SUSTRACCION INCOMPLETA

No habrá suficiente ANTIGENO para formar los inmunocomplejos

↓

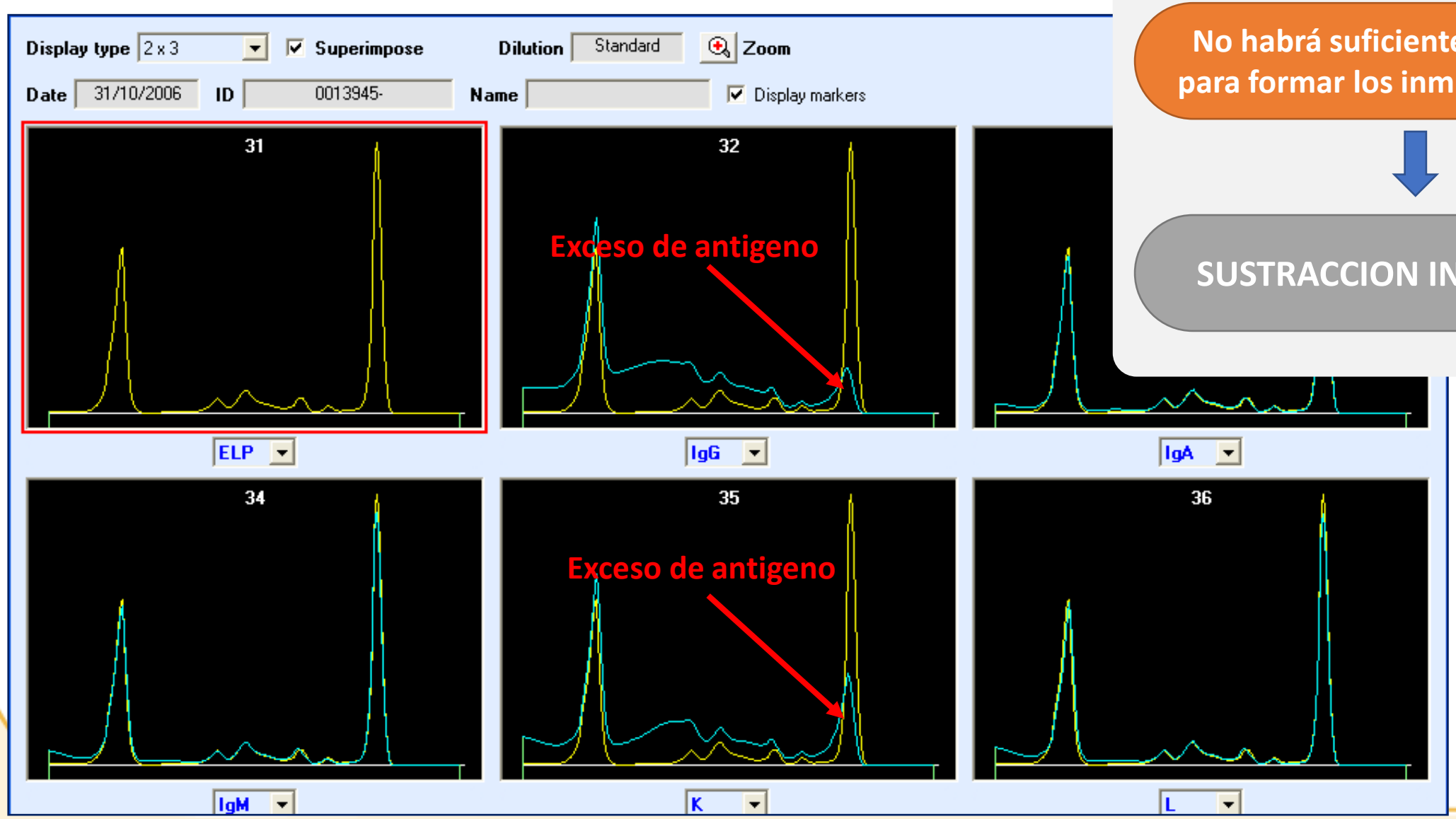
Falta de visibilidad de pequeñas anormalidades monoclonales

Error en la elección de la dilución

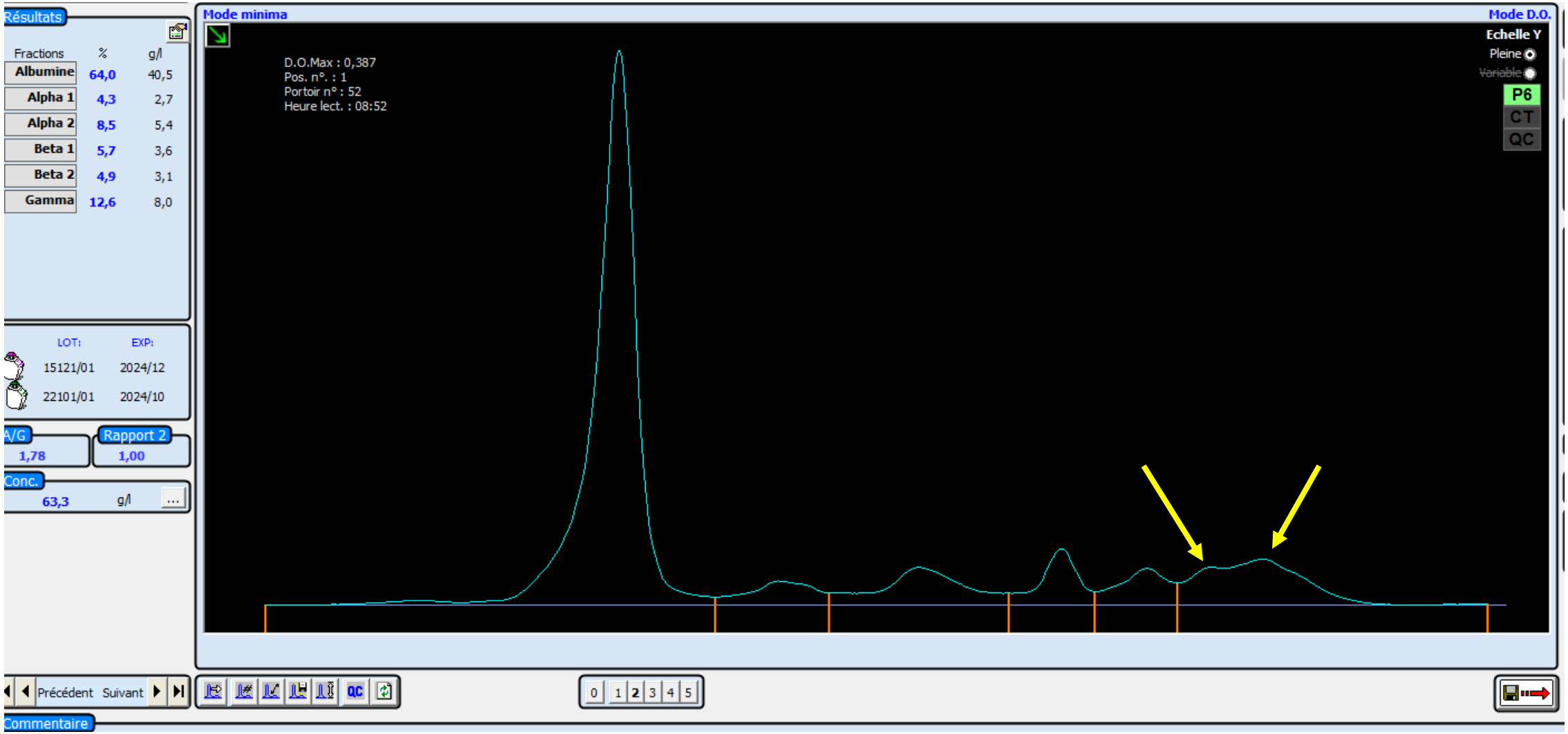
DILUCION MAS BAJA

No habrá suficiente ANTISUERO para formar los inmunocomplejos

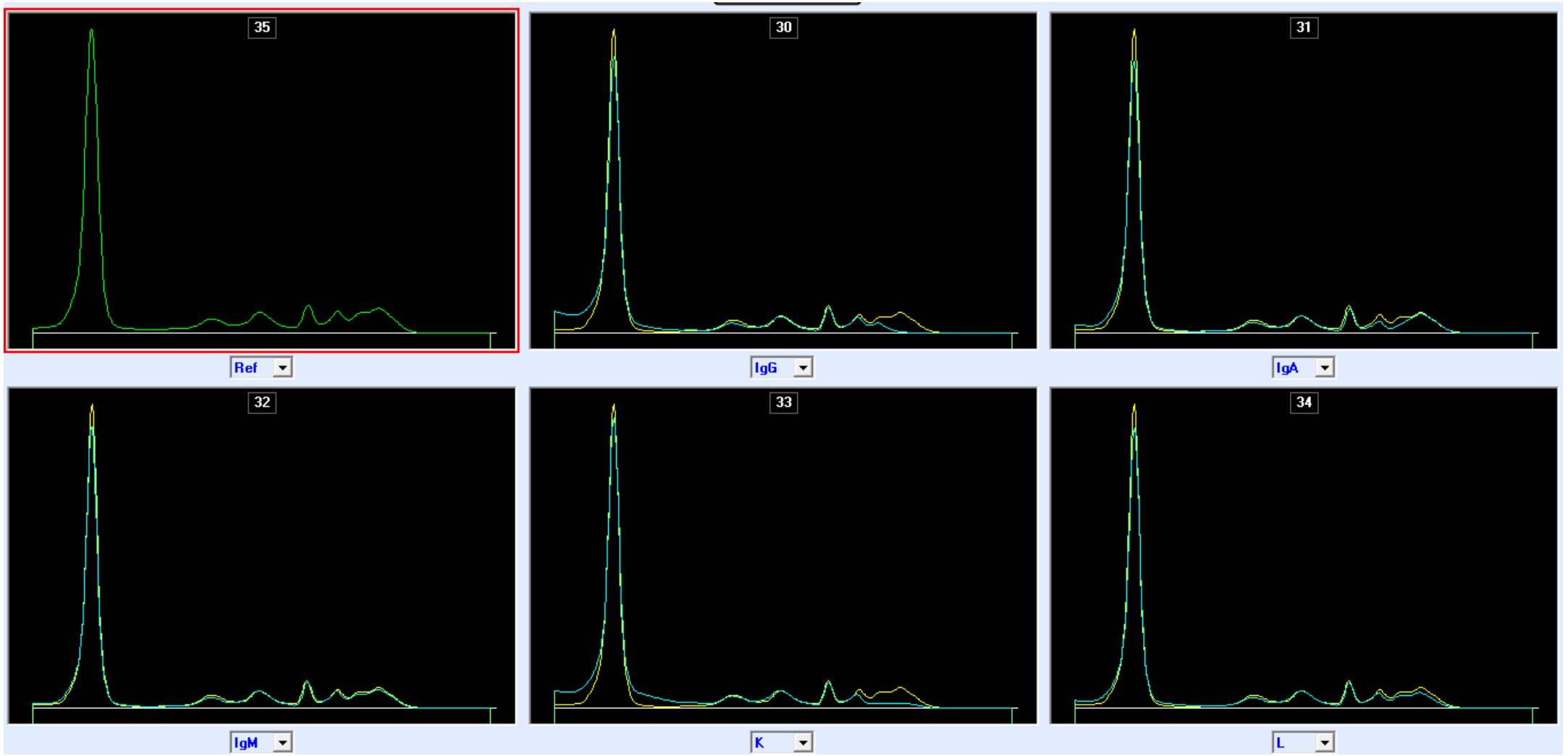
SUSTRACCION INCOMPLETA



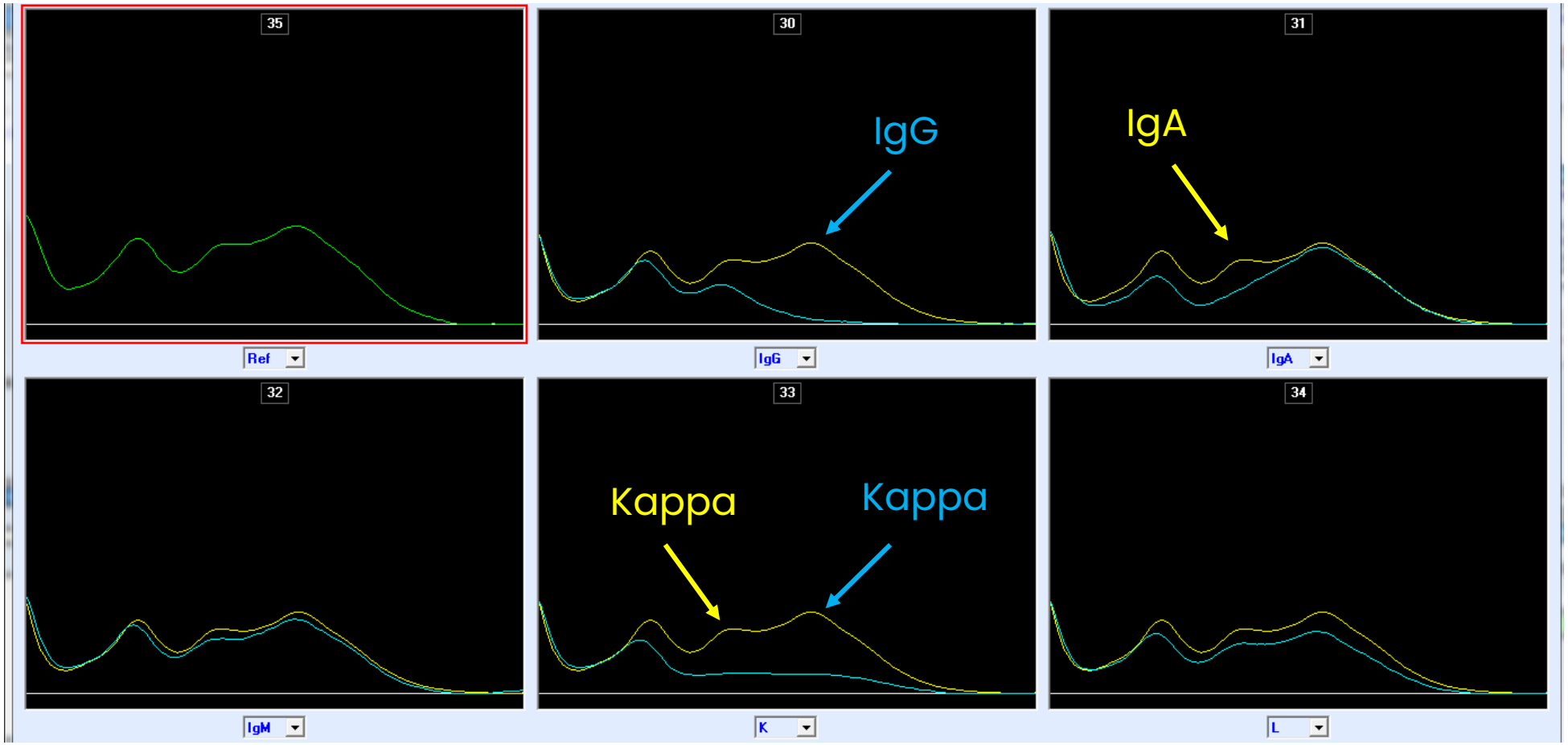
Electroforesis de proteinas



Immunotyping



Immunotyping (zoom x4)



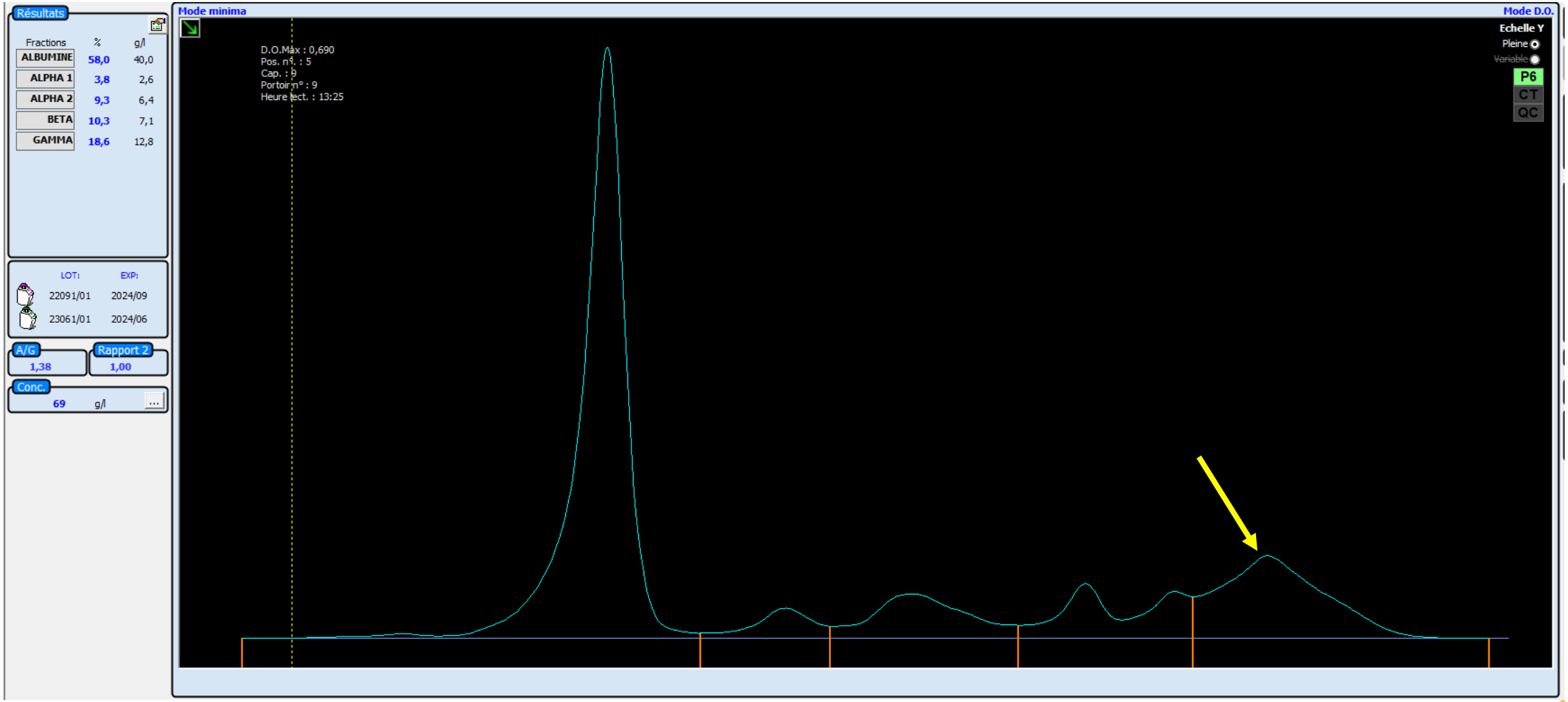
A. IgG Kappa

B. IgA Lambda

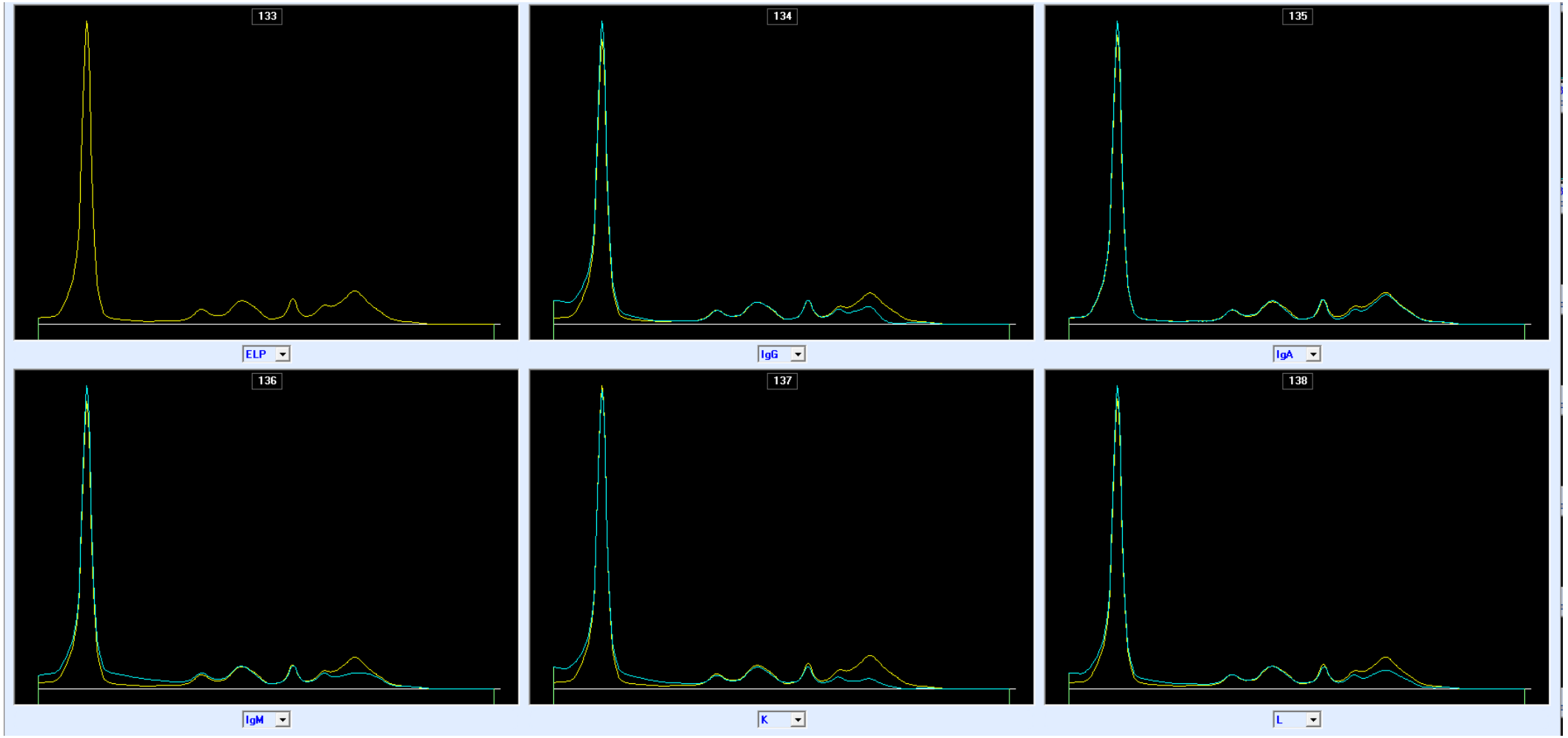
C. IgM Kappa

D. IgA Kappa

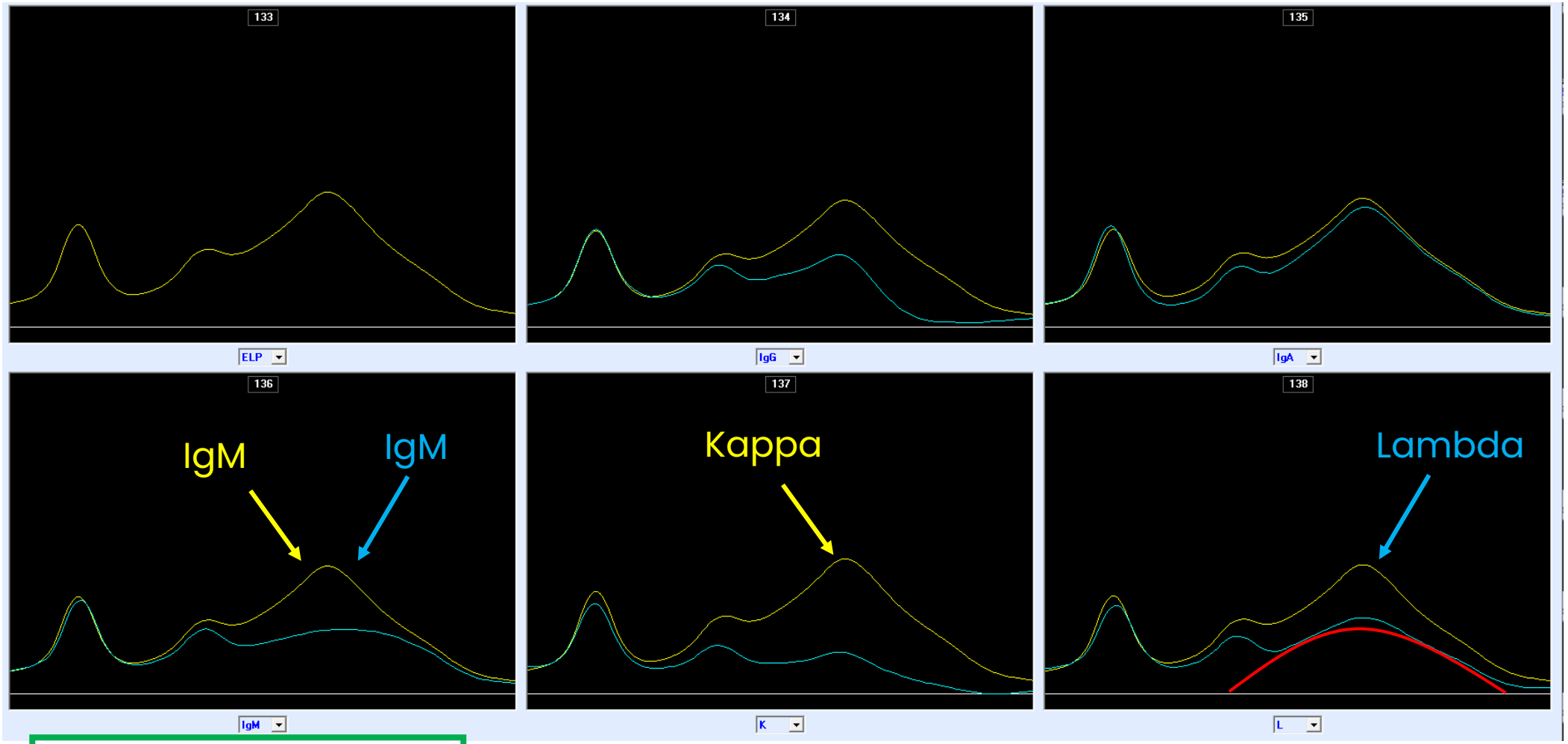
Electroforesis de proteinas



Immunotyping



Immunotyping (zoom x4)



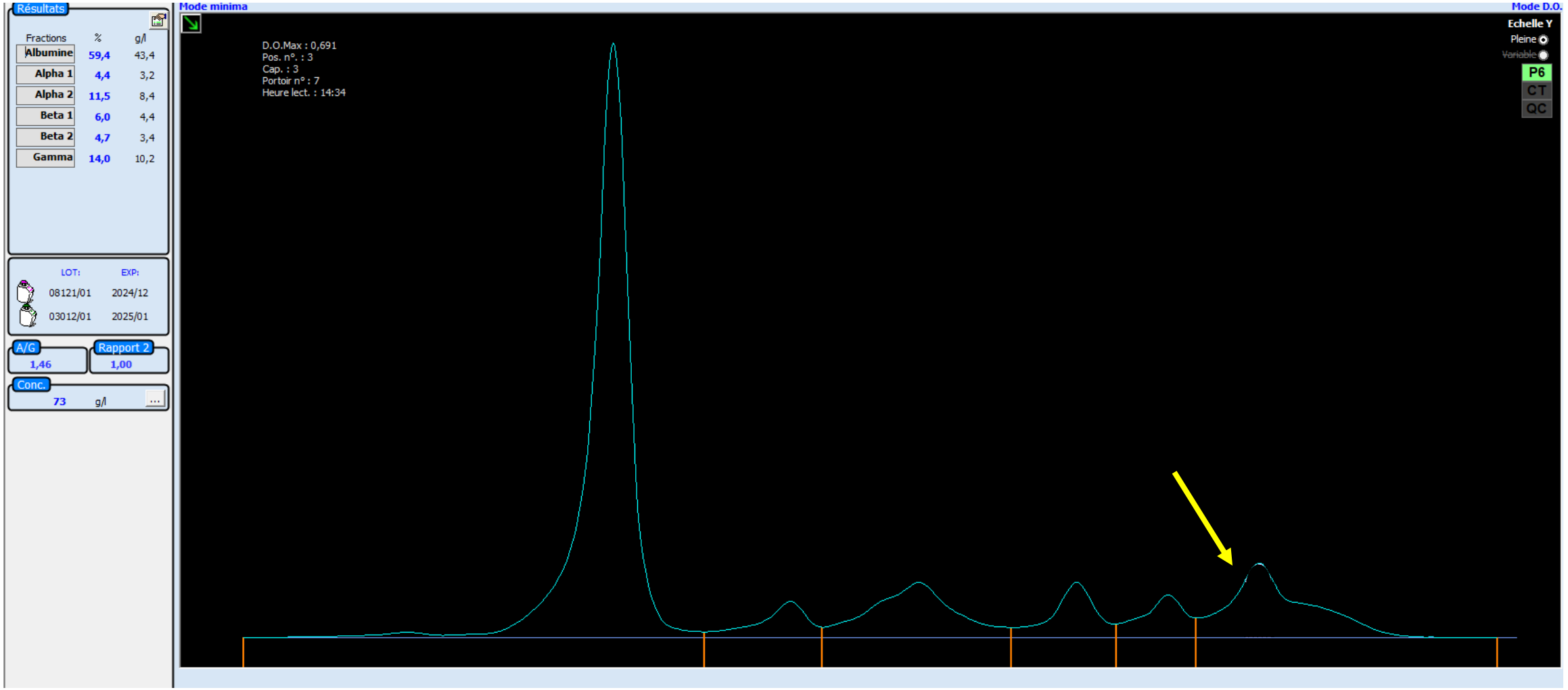
A. IgM Kappa

B. IgM Lambda

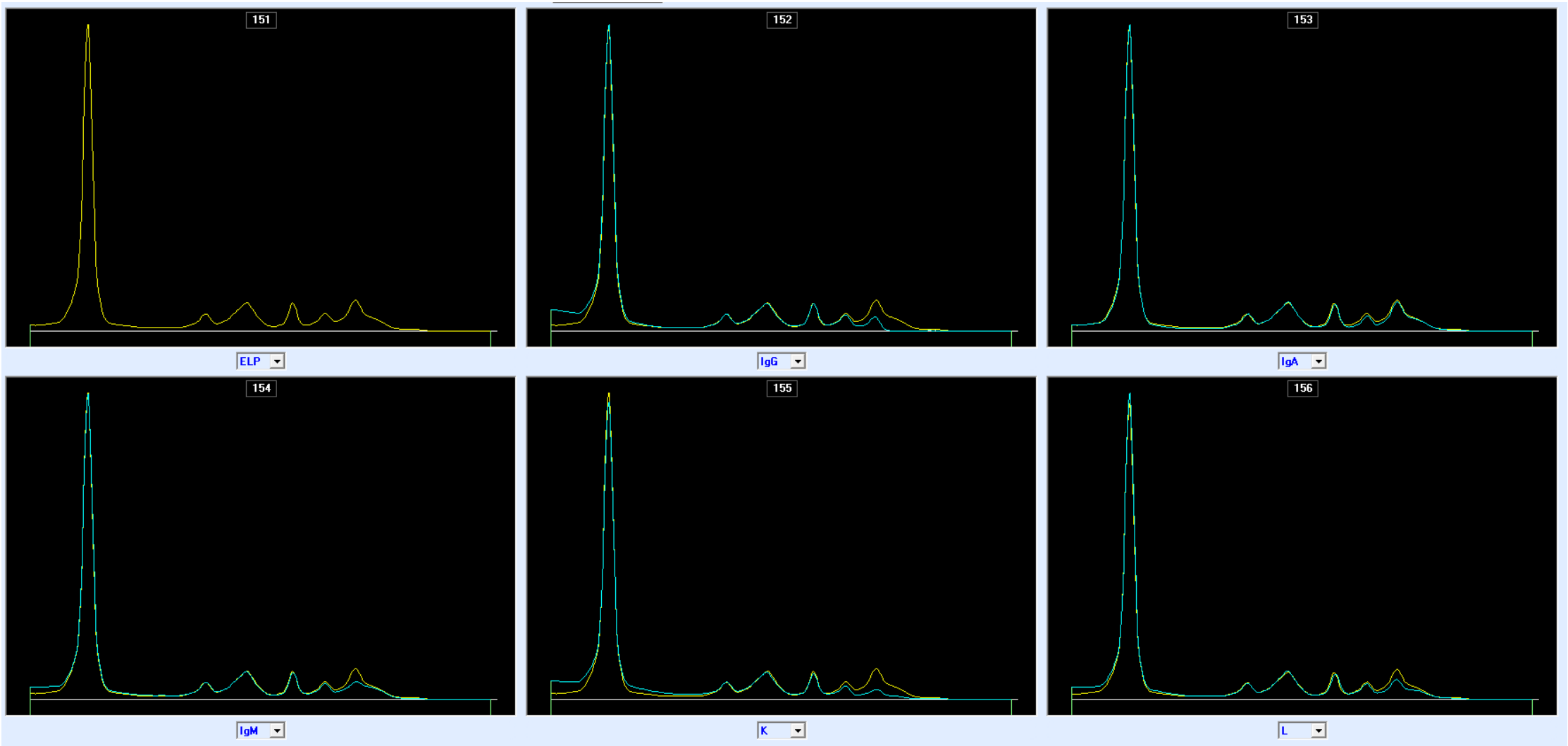
C. IgG Kappa

D. Oligoclonal

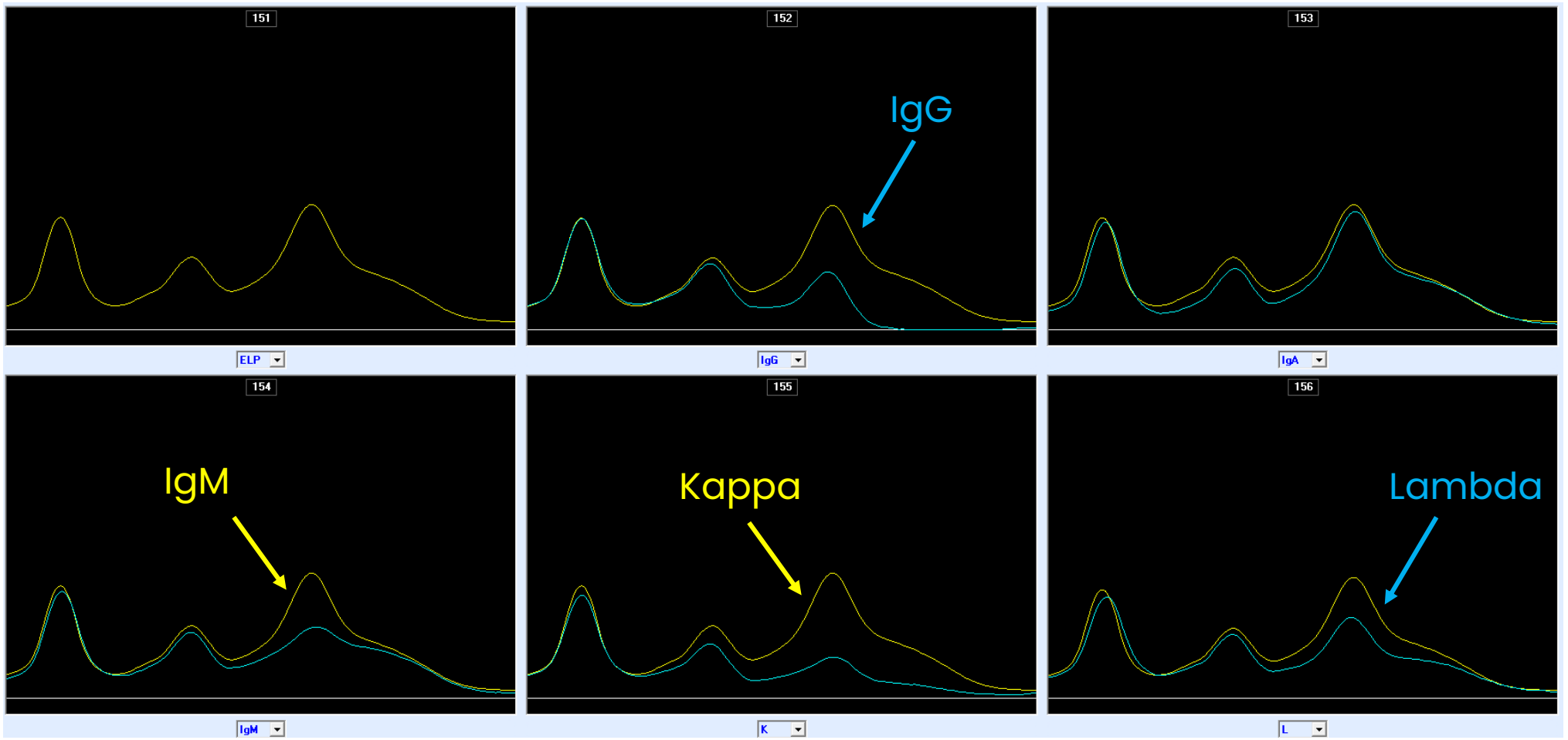
Electroforesis de proteinas



Immunotyping



Immunotyping (zoom x4)



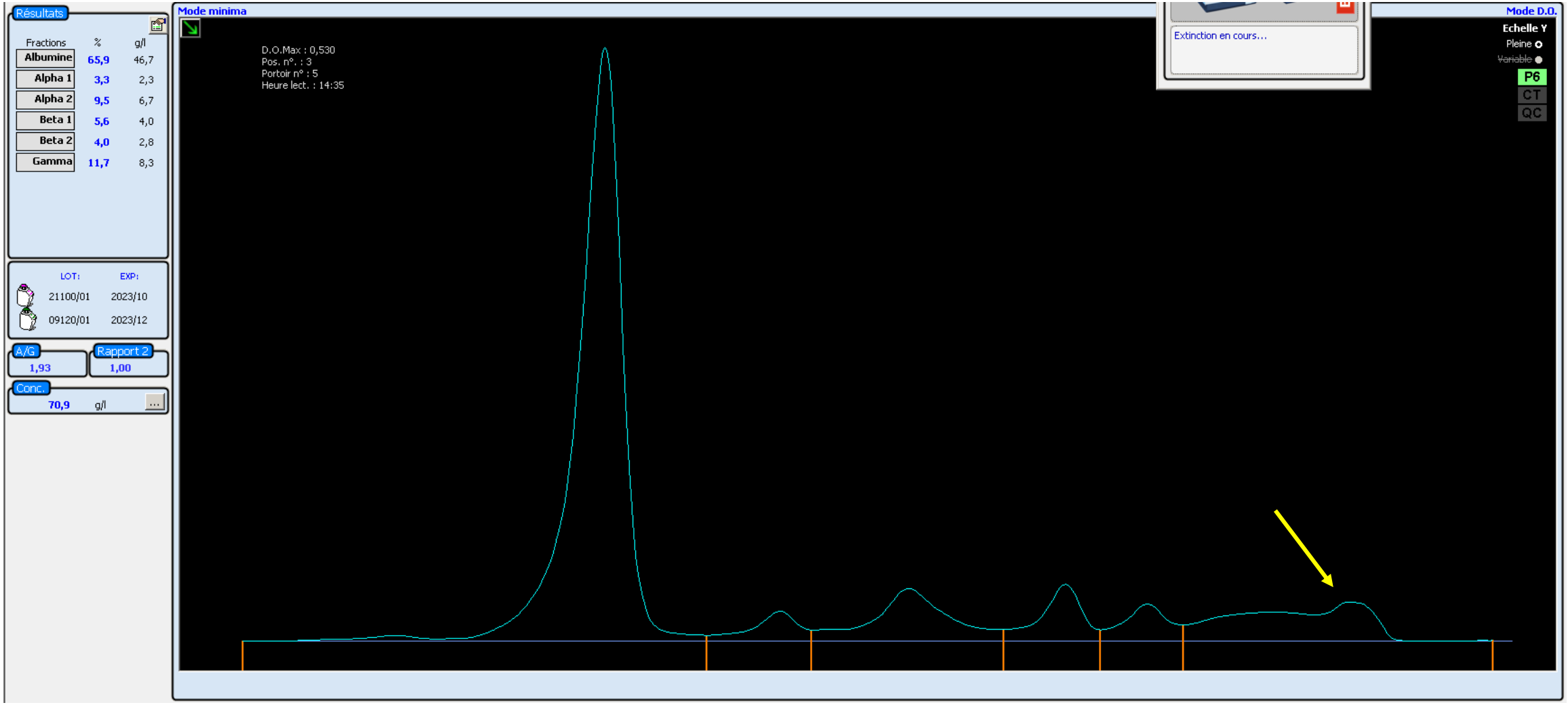
A. IgG Kappa

C. IgG Lambda

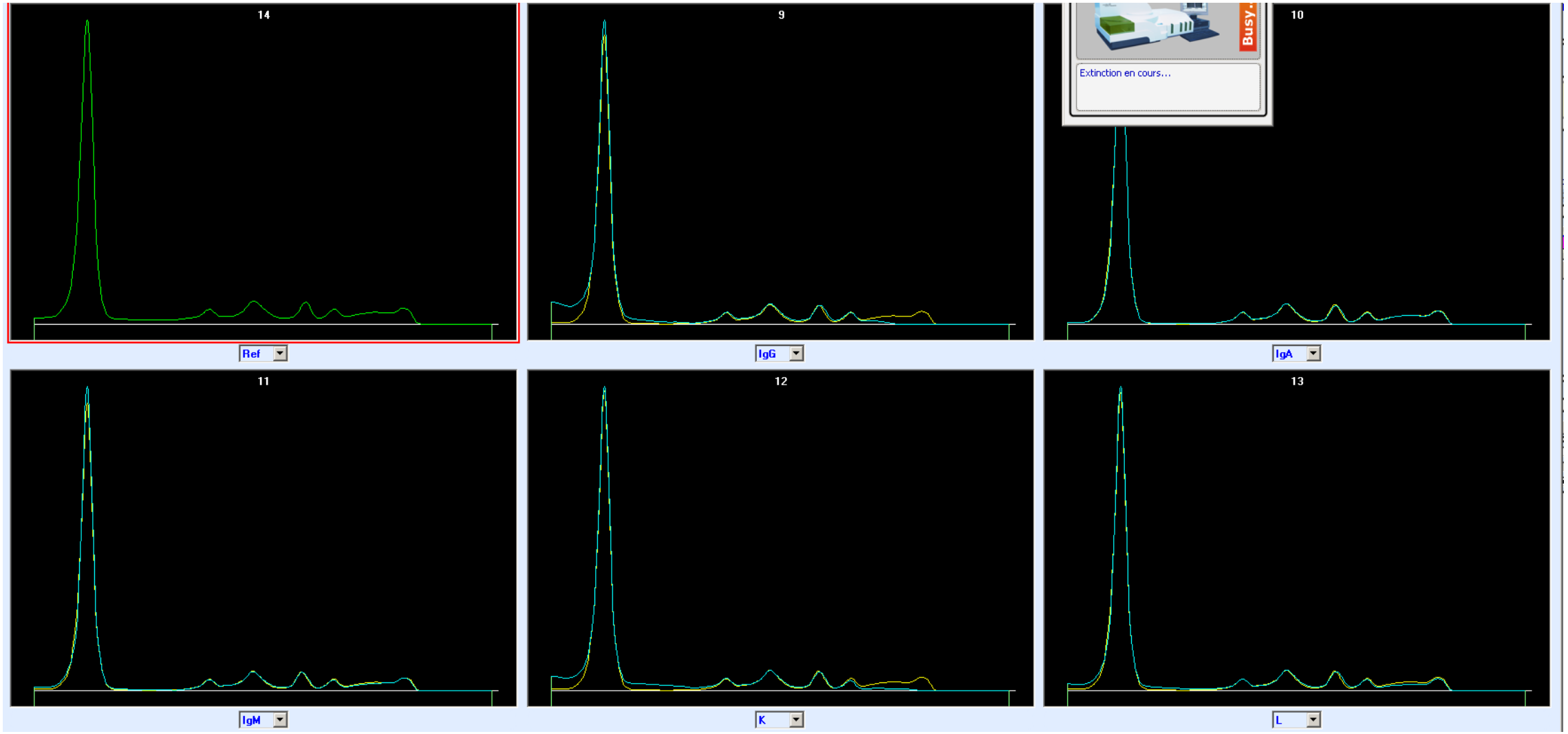
B. IgM Kappa

D. IgM Lambda

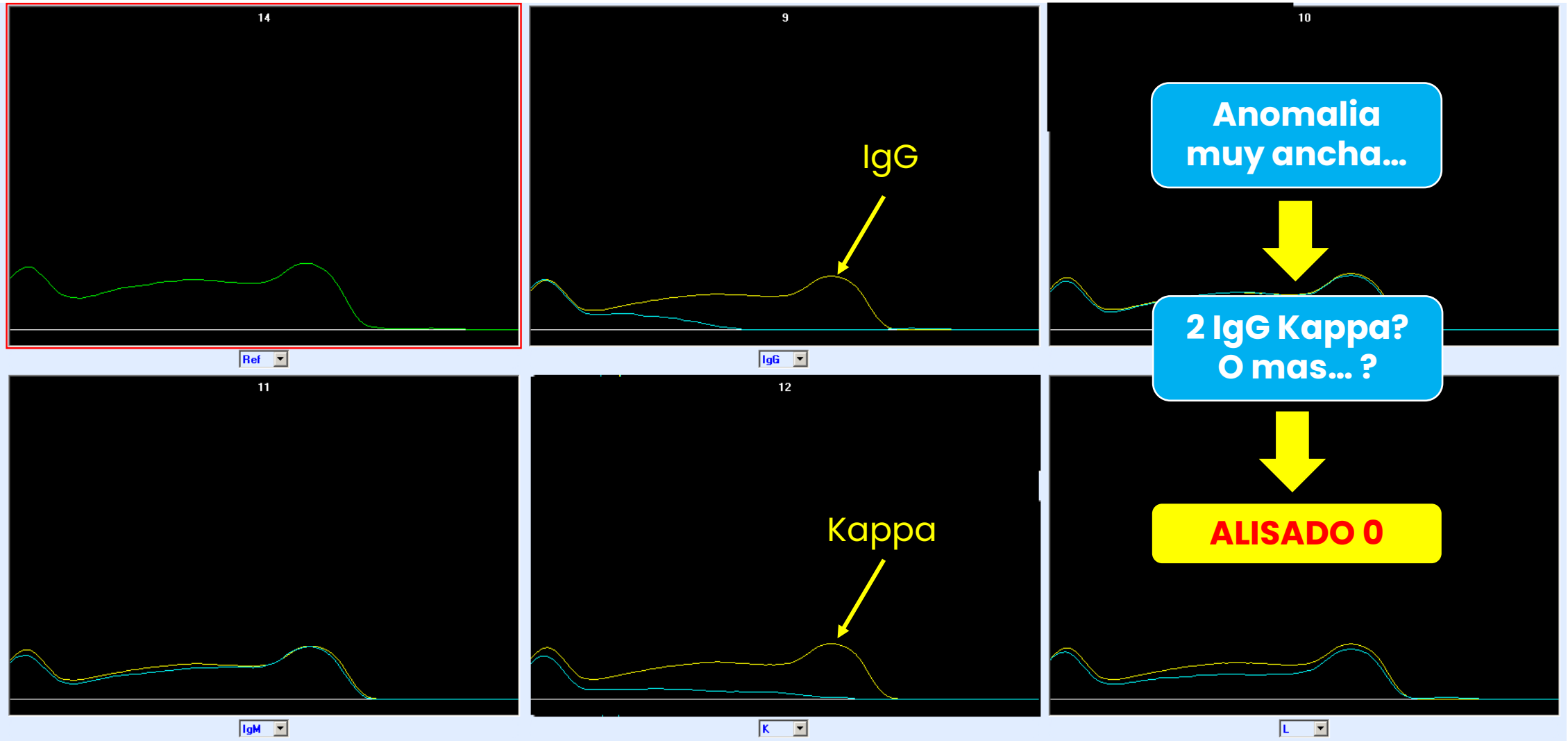
Electroforesis de proteinas



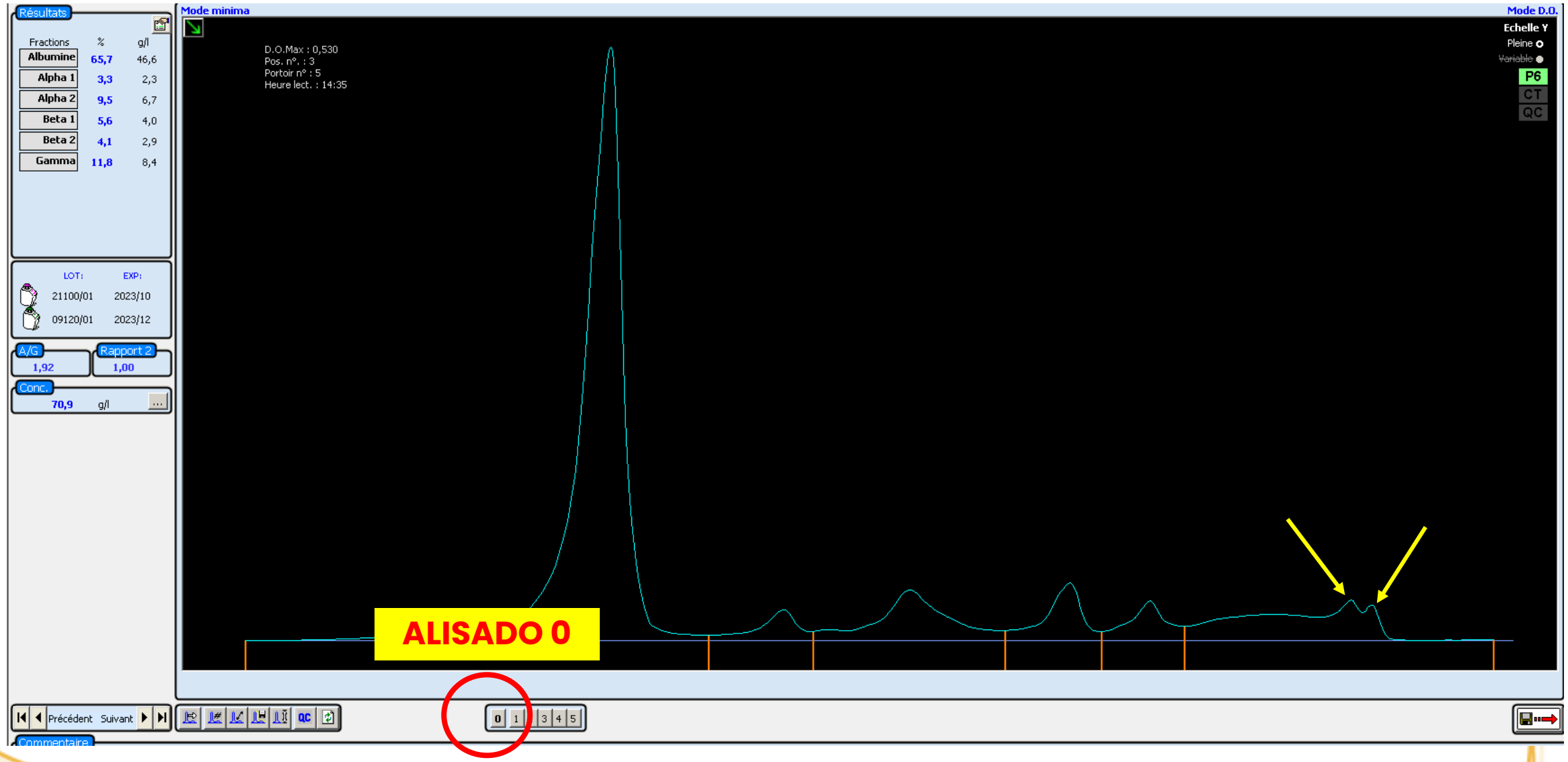
Immunotyping



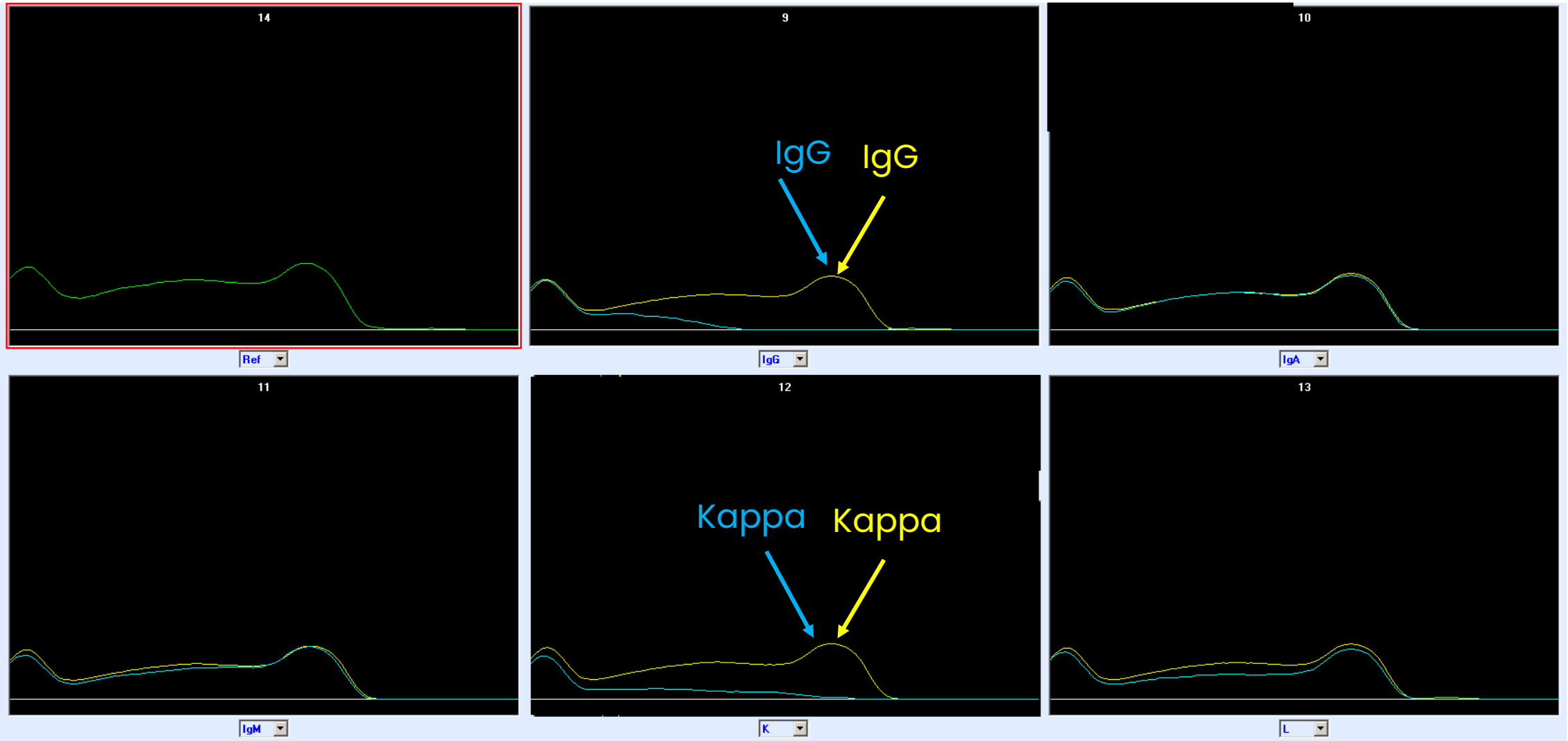
Immunotyping (zoom x4)



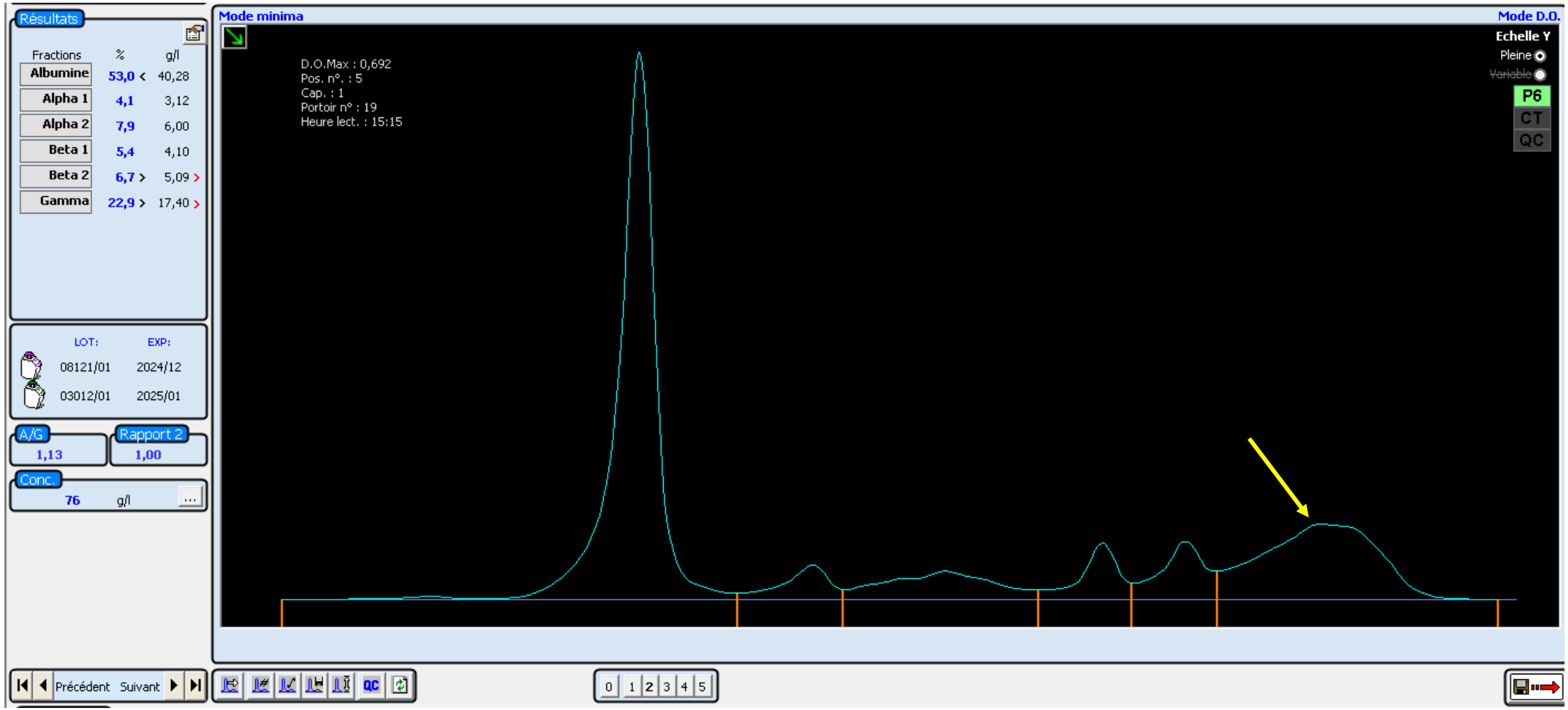
Electroforesis de proteinas



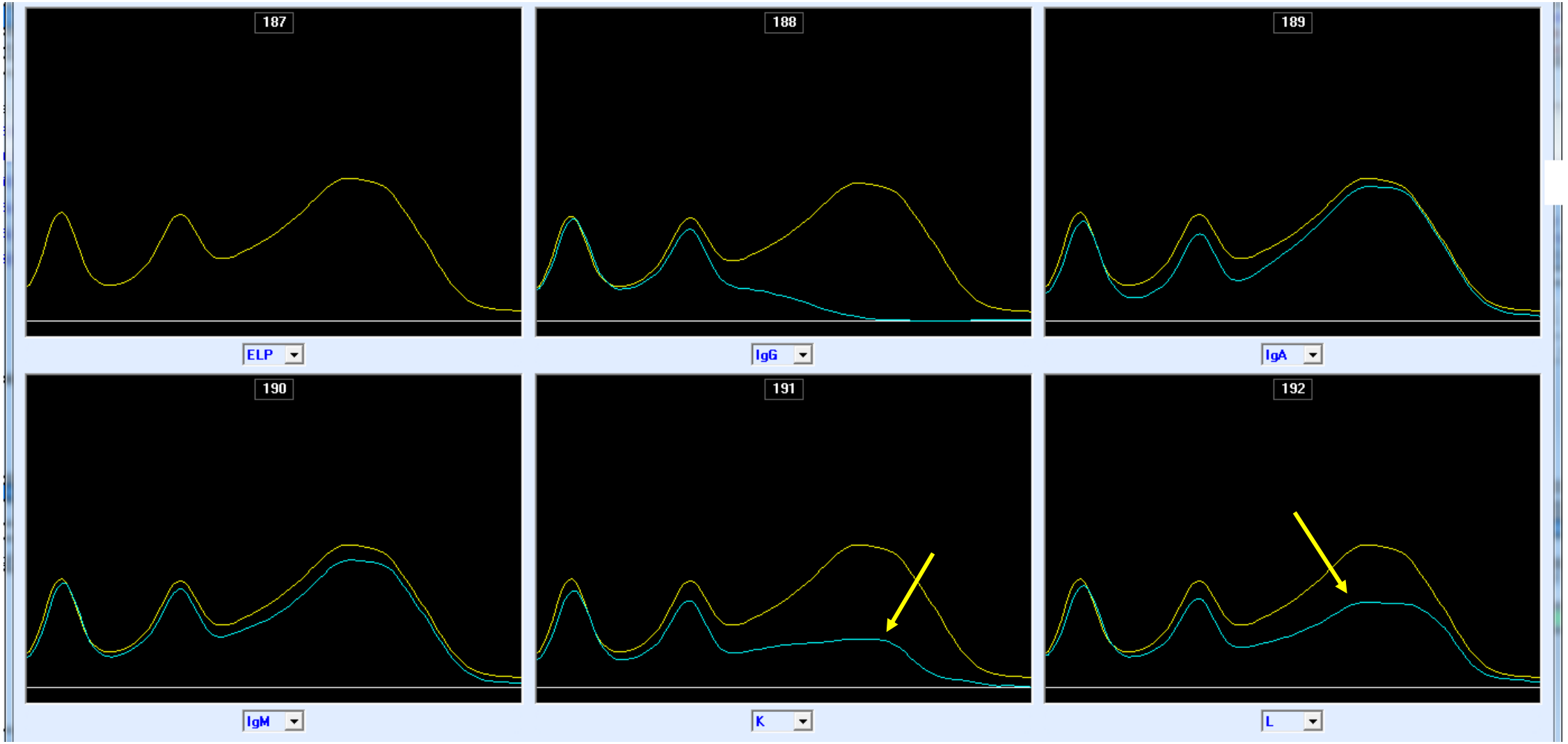
Immunotyping (zoom x4)



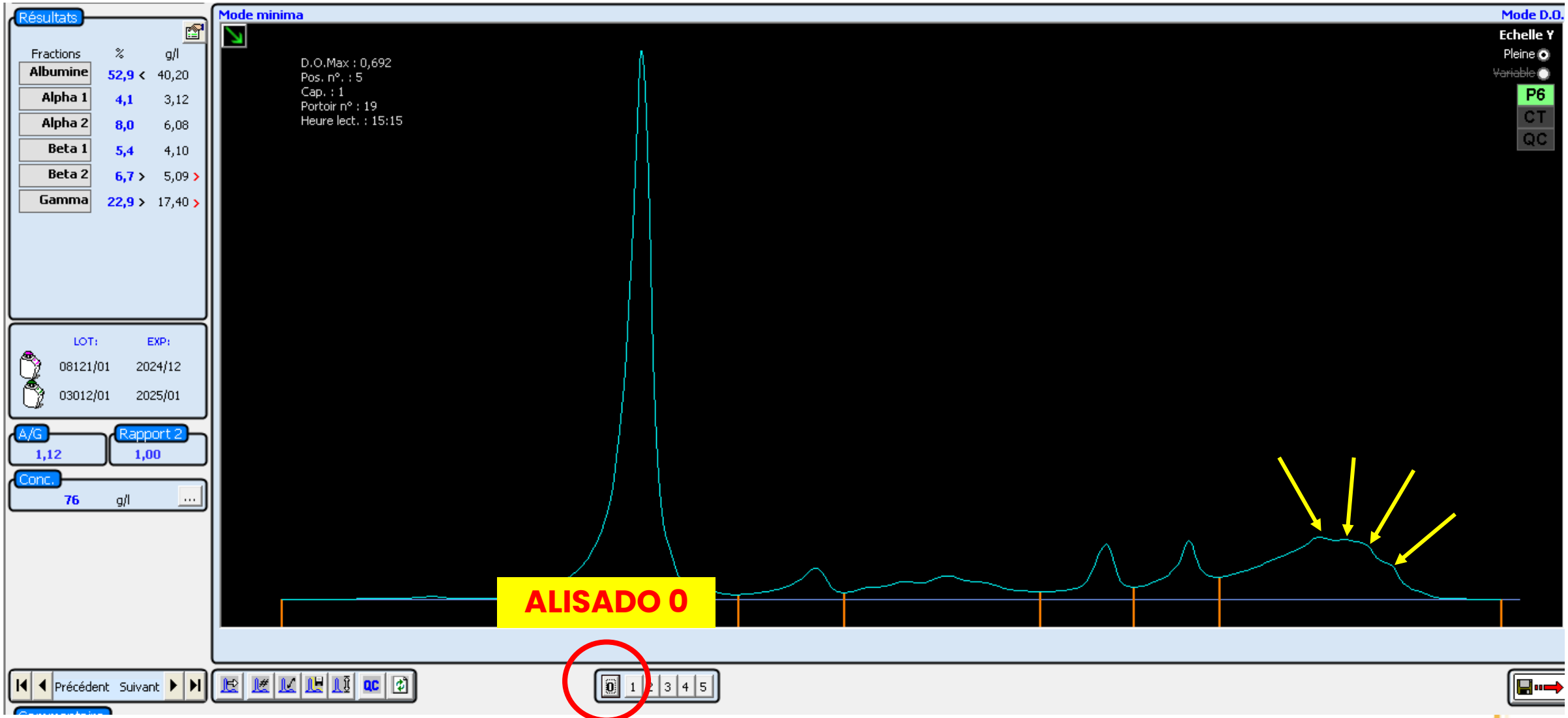
Electroforesis de proteinas



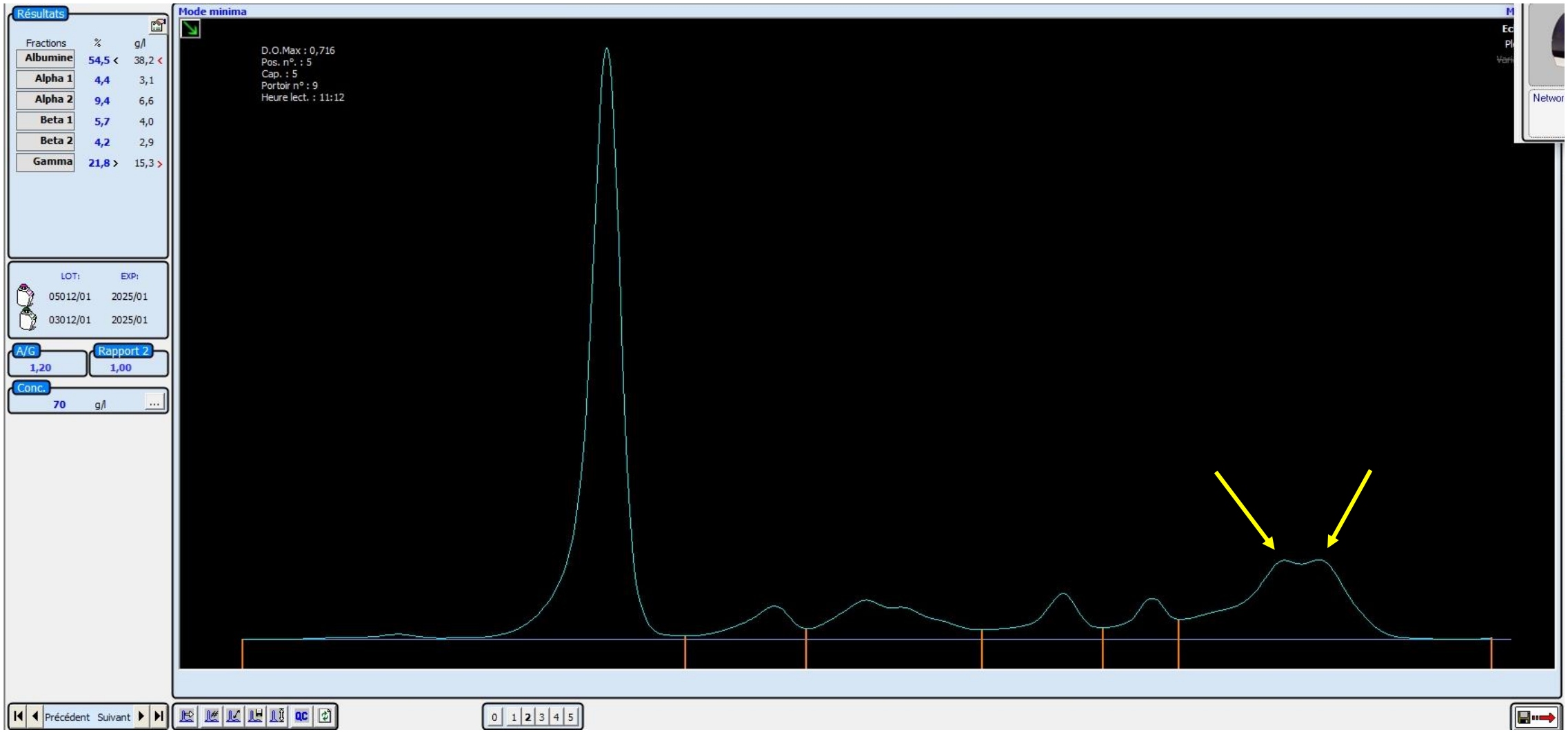
Immunotyping



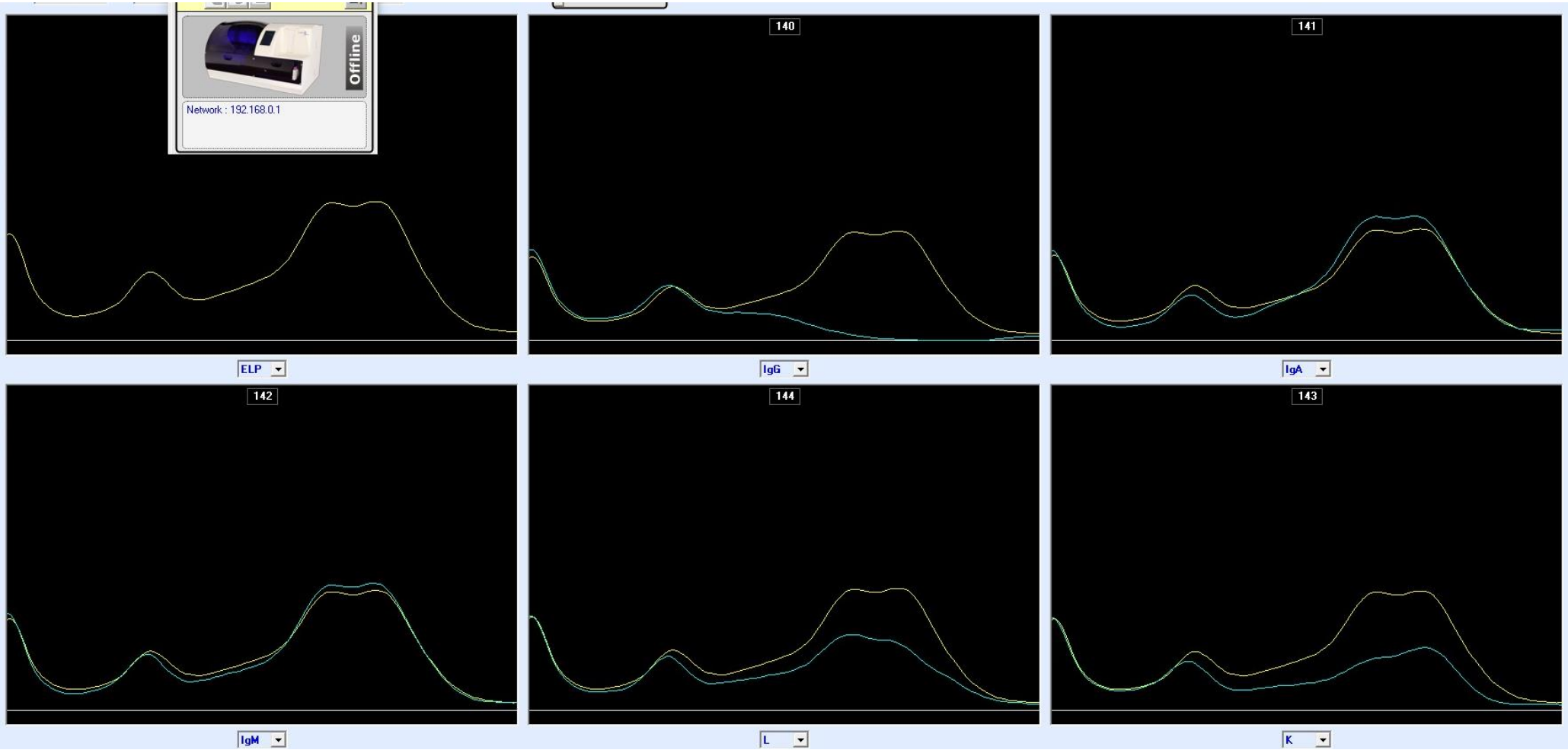
Electroforesis de proteinas



Electroforesis de proteinas



Immunotyping (zoom x4)



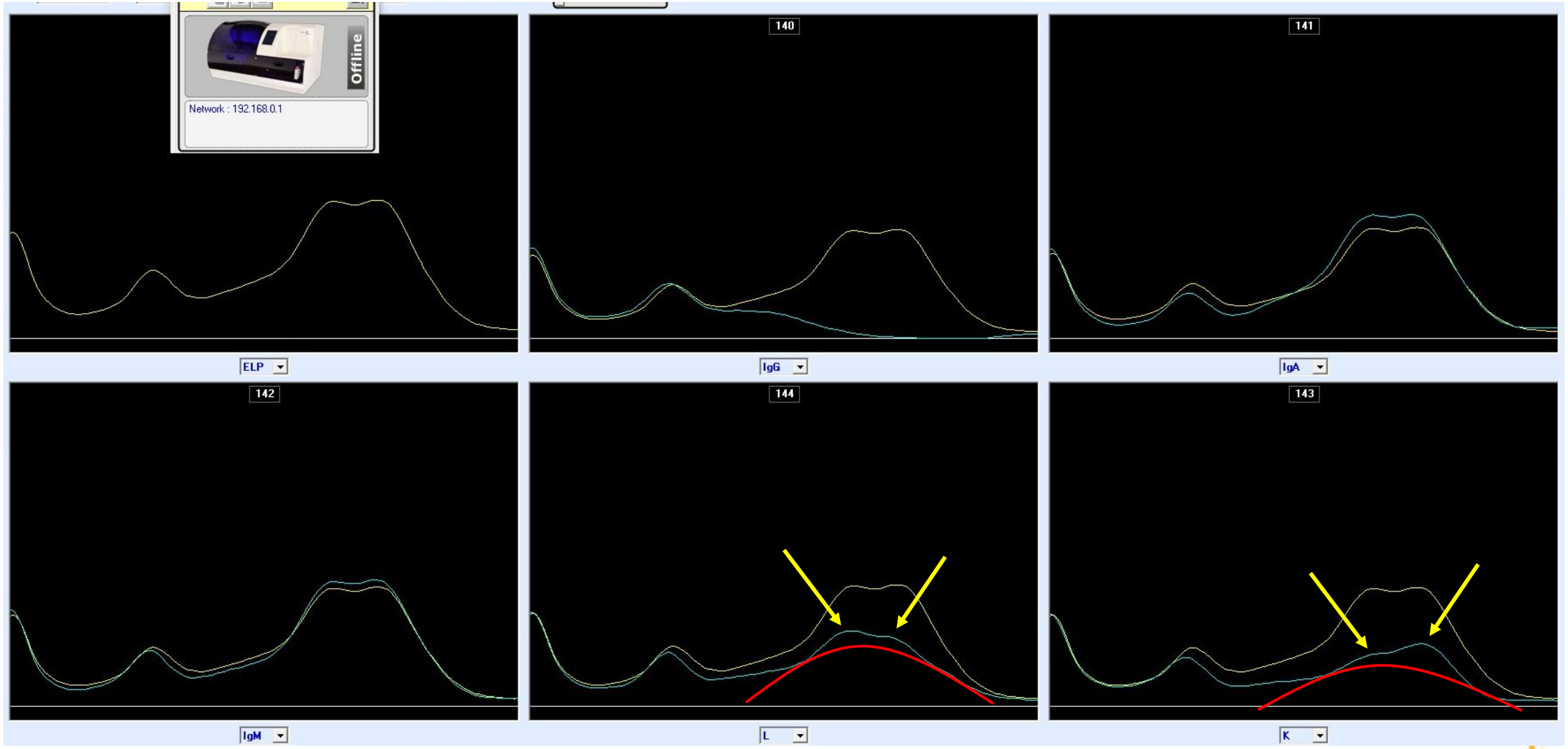
A. IgG Kappa

B. Oligoclonal

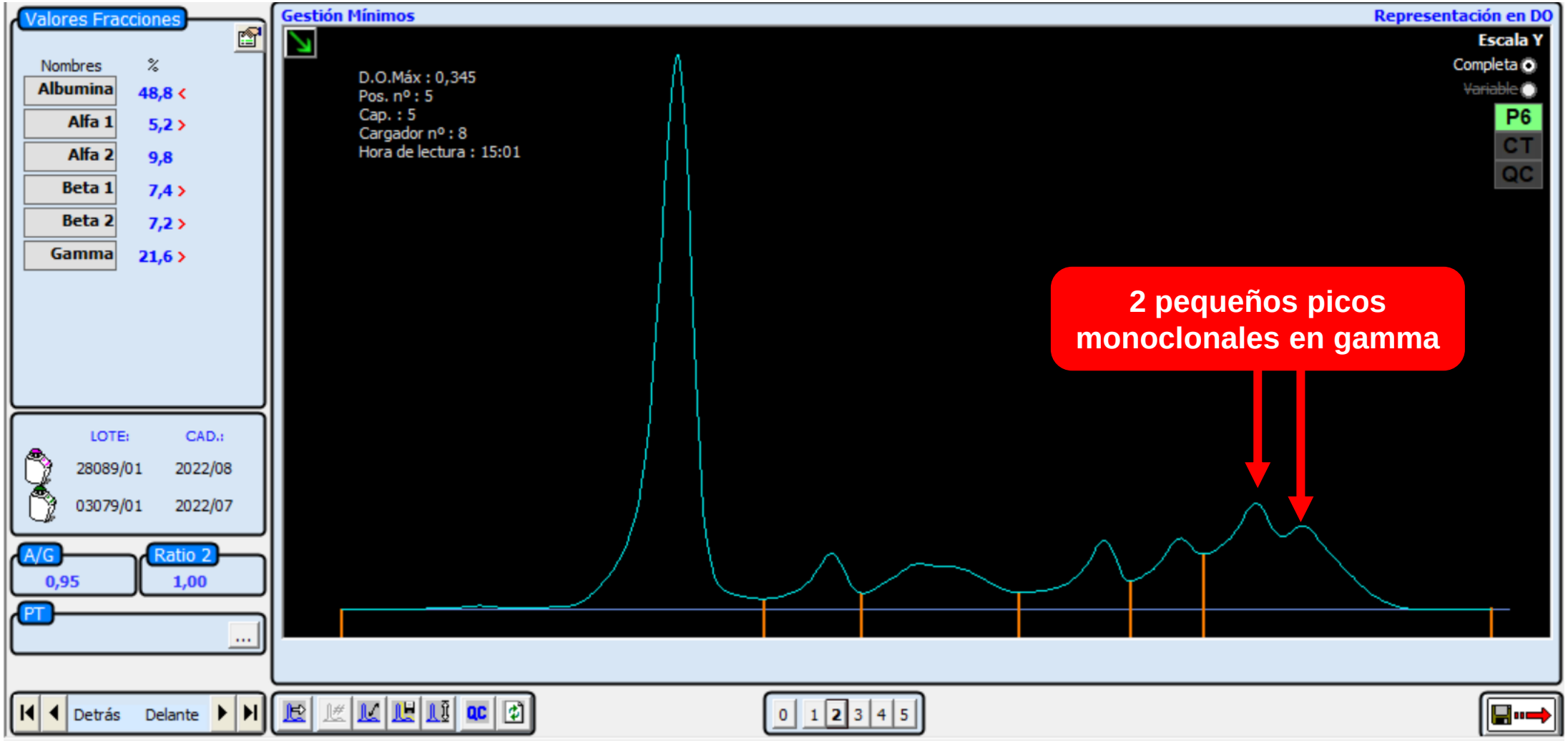
C. Biclonal

D. IgG polimerizada

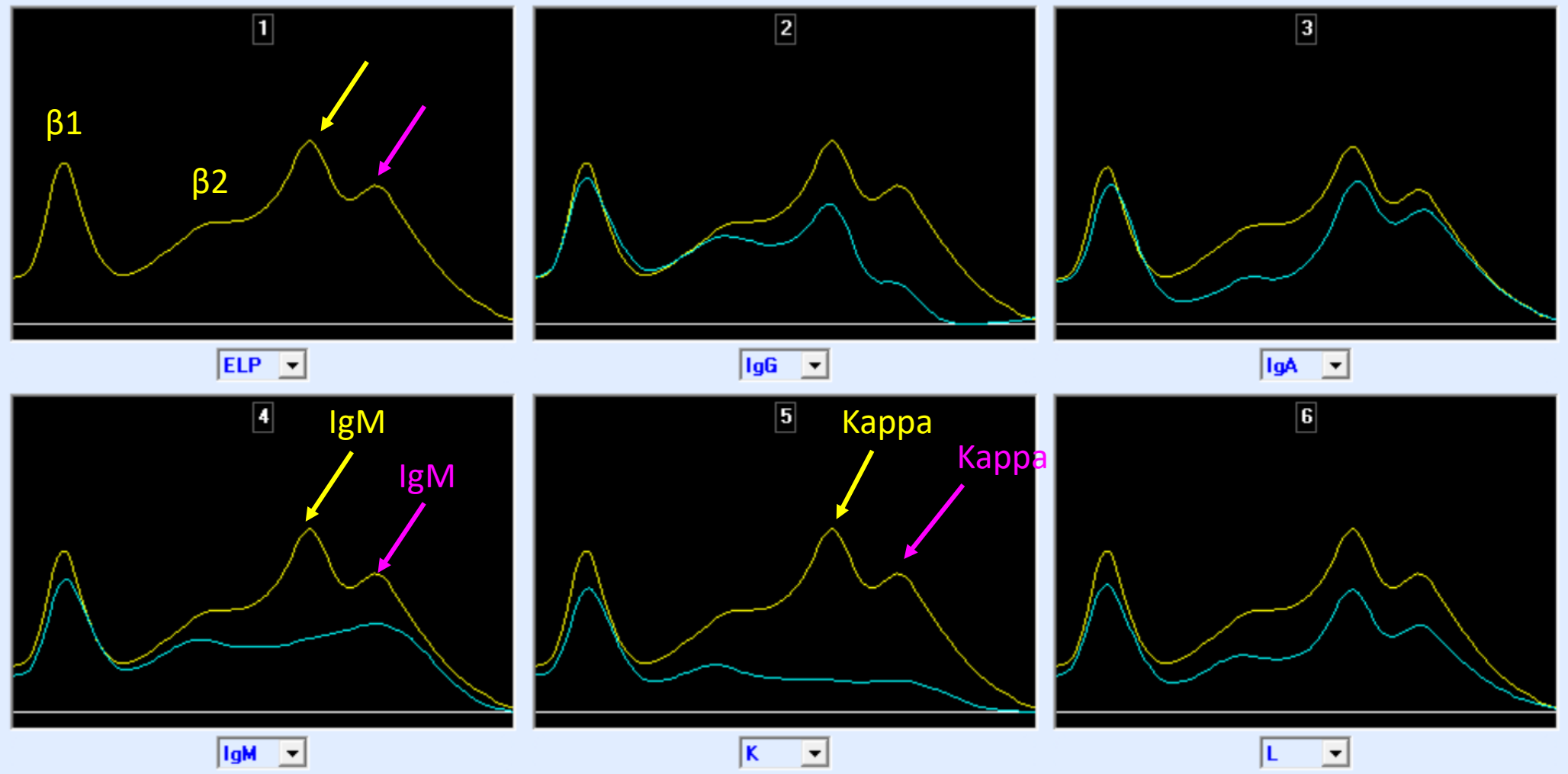
Immunotyping (zoom x4)



Electroforesis de proteinas



Immunotyping (zoom x4)



A. IgG Kappa

B. Oligoclonal

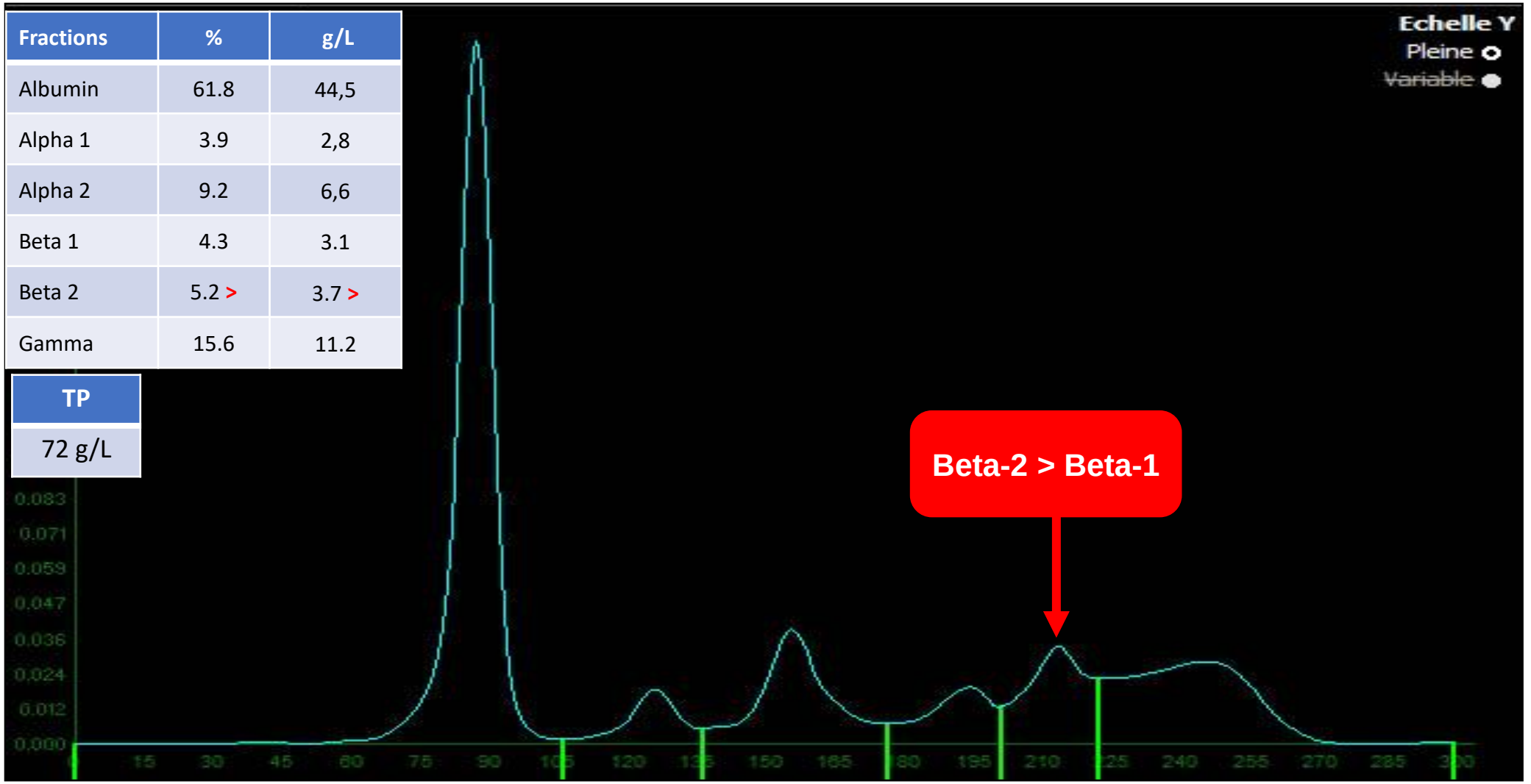
C. IgM Lambda

D. 2 IgM Kappa o IgM polimerizada

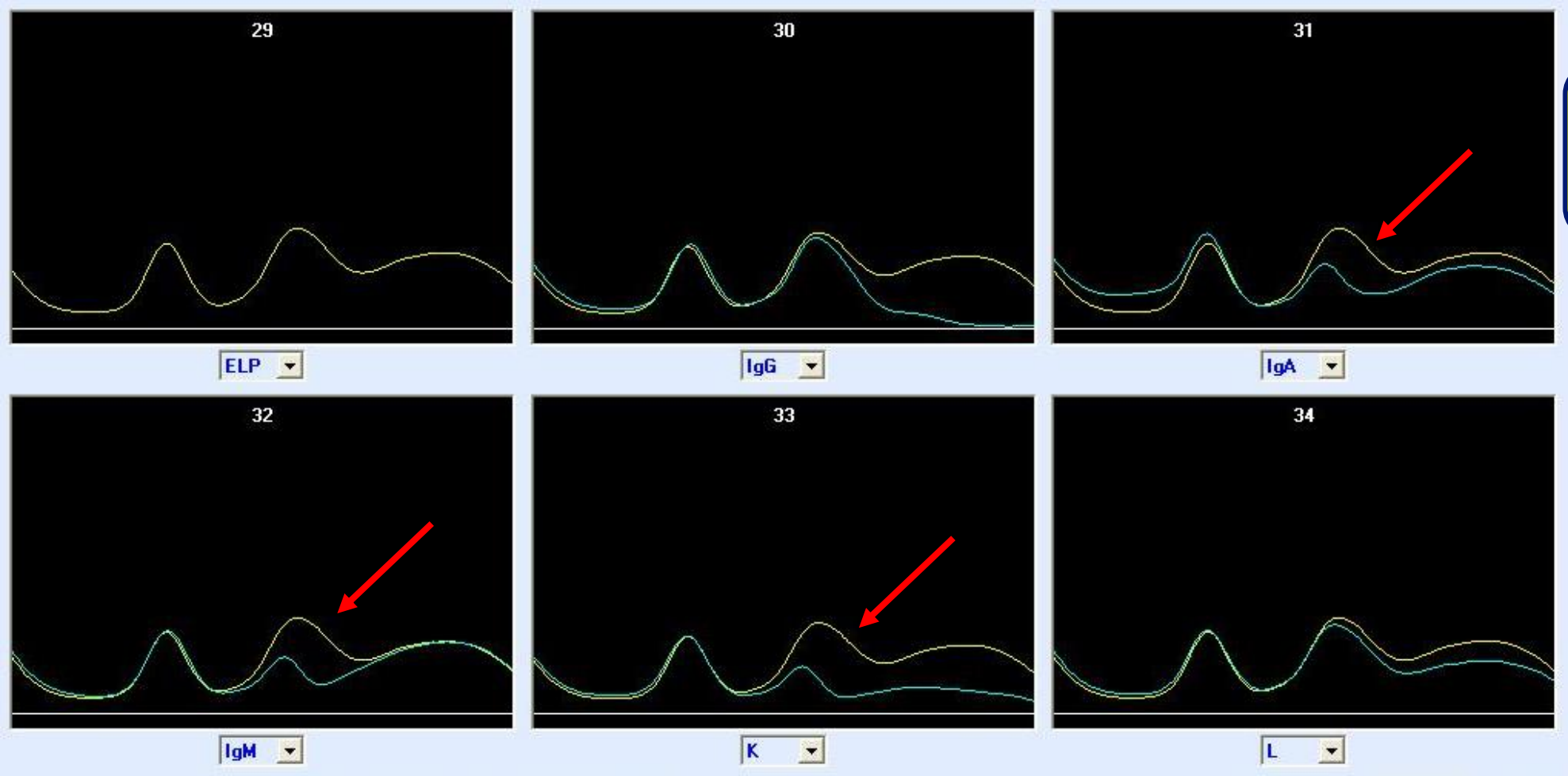
Electroforesis de proteinas

Fractions	%	g/L
Albumin	61.8	44,5
Alpha 1	3.9	2,8
Alpha 2	9.2	6,6
Beta 1	4.3	3.1
Beta 2	5.2 >	3.7 >
Gamma	15.6	11.2

TP
72 g/L



Immunotyping (zoom x4)



REPETIR EL ANALISIS EN DILUCION OPTIMIZADA

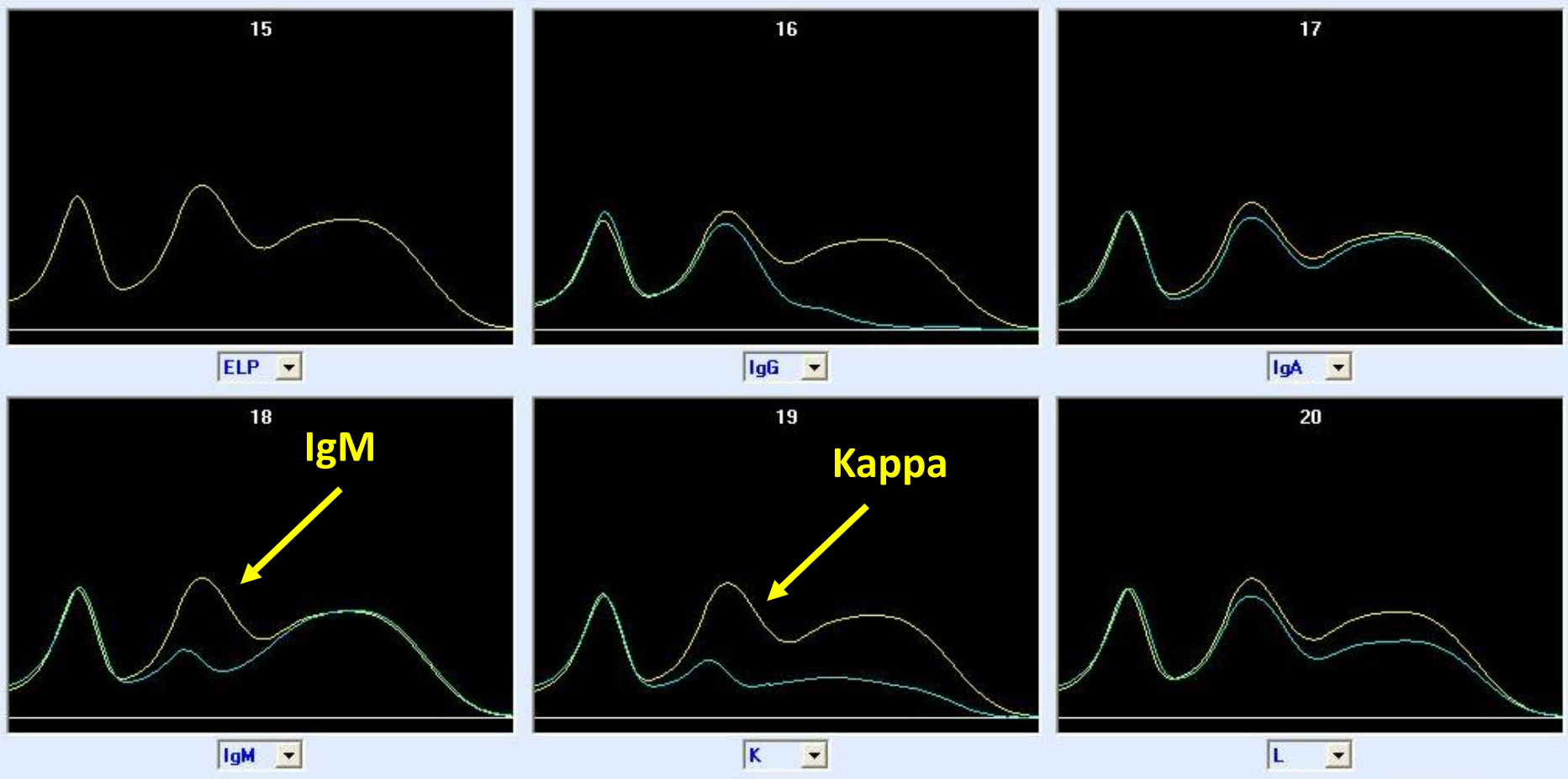
A. IgM Kappa

B. IgM Kappa + IgA Kappa

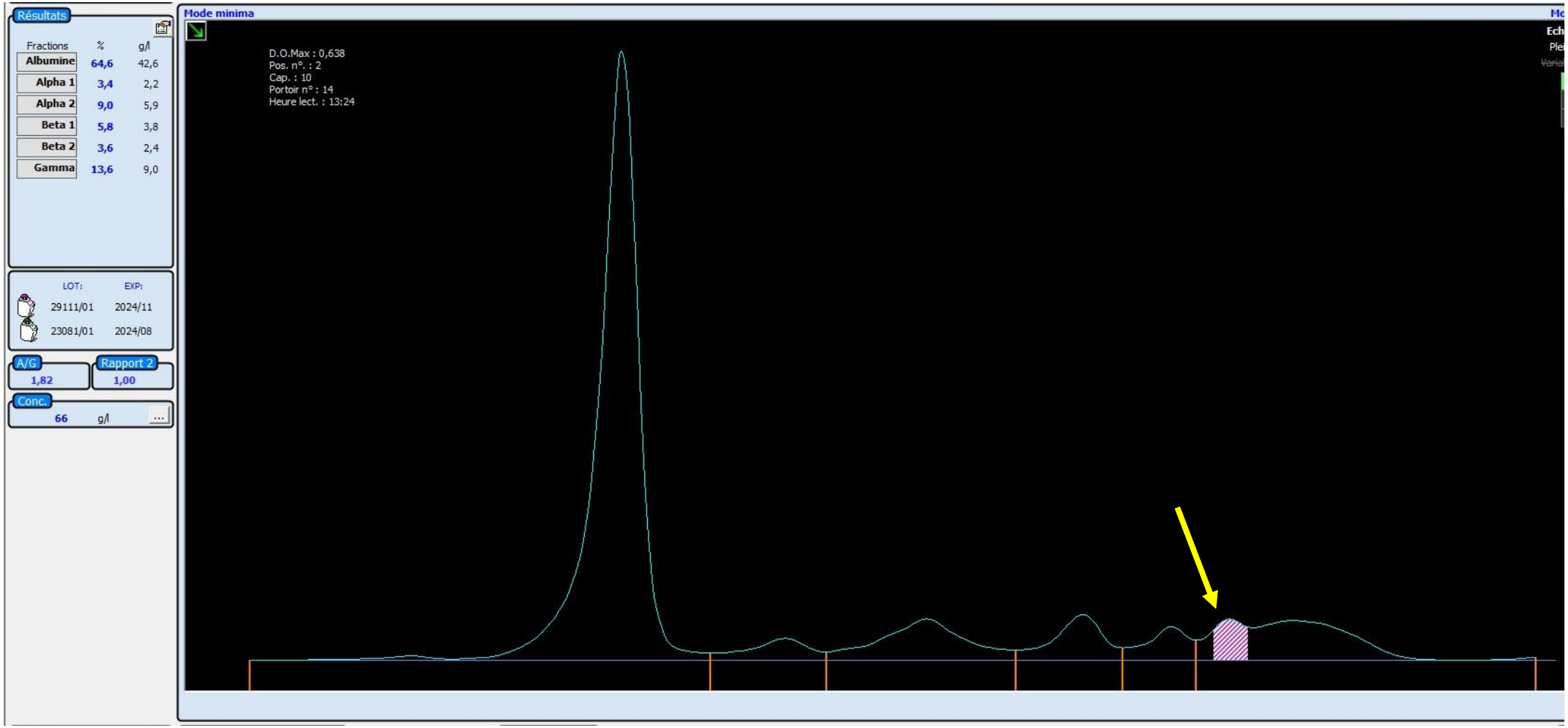
C. IgA Kappa

D. Sustracción múltiple simultanea de cadenas pesadas

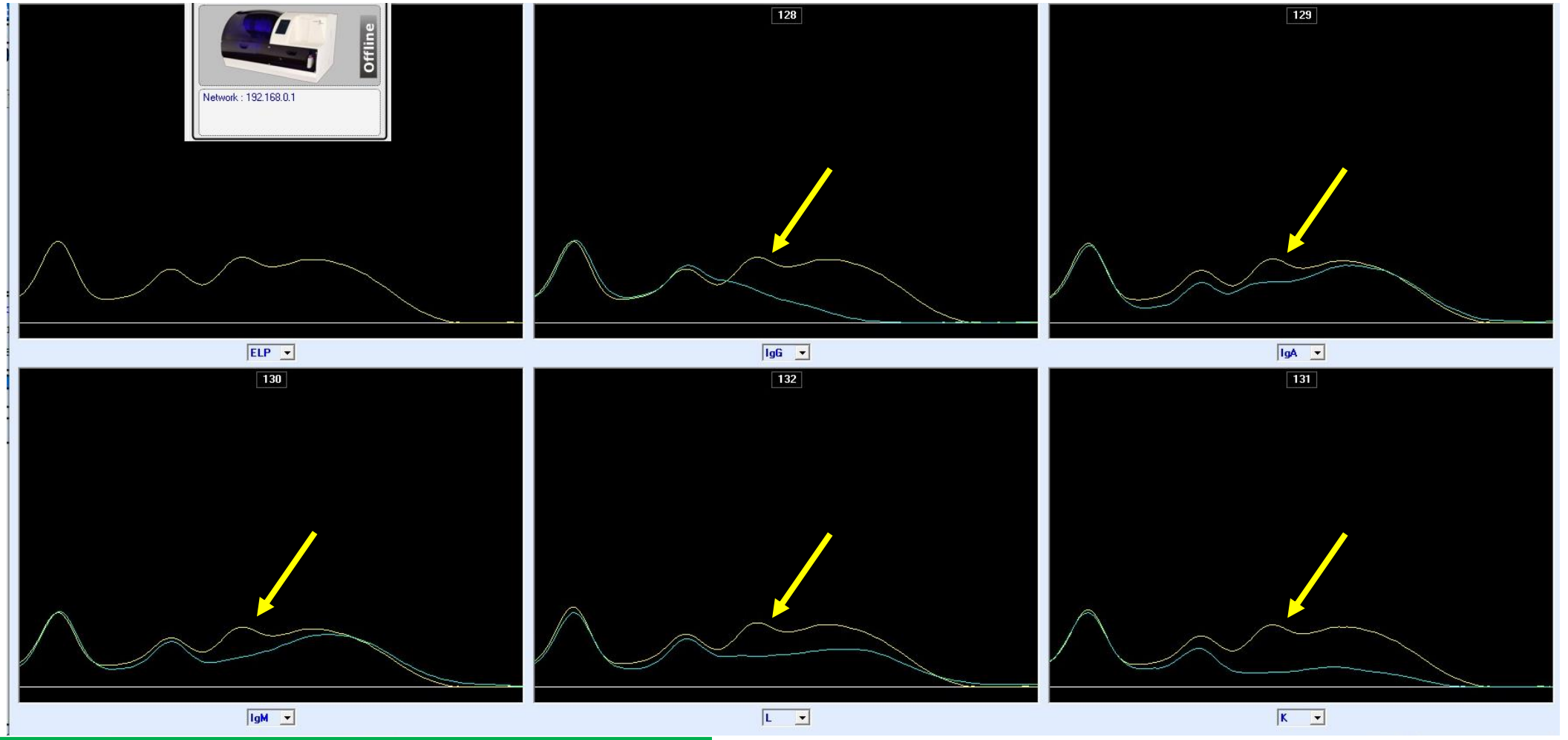
Dilucion optimizada



Electroforesis de proteinas



Immunotyping (zoom x4)



A. Sustracción en todas las pistas

B. Cadenas livianas libres

C. Realizar dilución optimizada

D. No puedo concluir, necesito realizar una prueba adicional.

Prueba adicional: Opciones

Tratamiento reductor con betamercaptoetanol (BME)

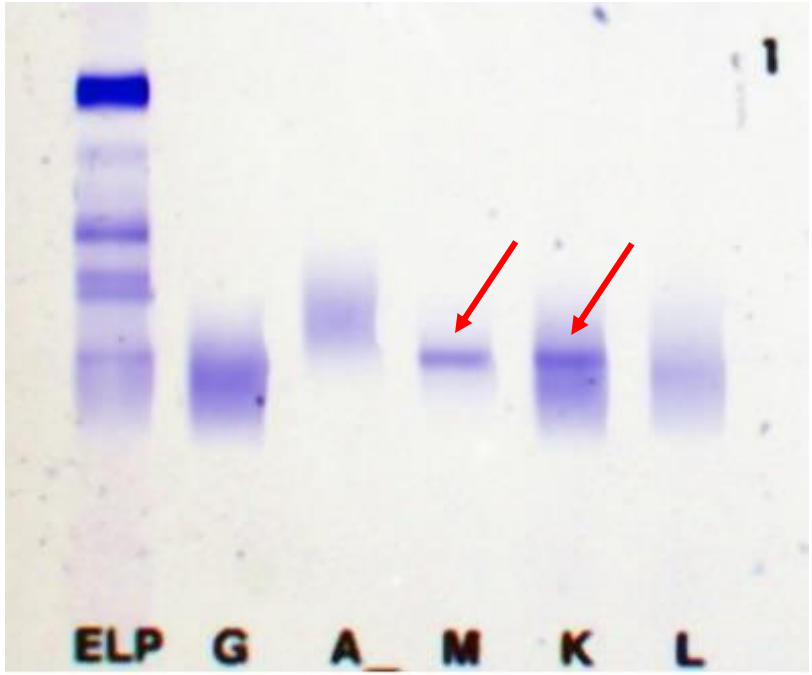
1. • Preparar una solución BME al 1%:
   ✓10 µL BME + 90µL H_2O= Solución A
   ✓10µL Solución A + 90µL Fluidil = Solución B
2. • Mezclar 25 µL Solución B + 75 µL suero
3. • Incubar 15 minutos (máximo) a T° ambiente
4. • Analizar la muestra tratada inmediatamente

Tratamiento reductor con ditiotreitol (DTT)

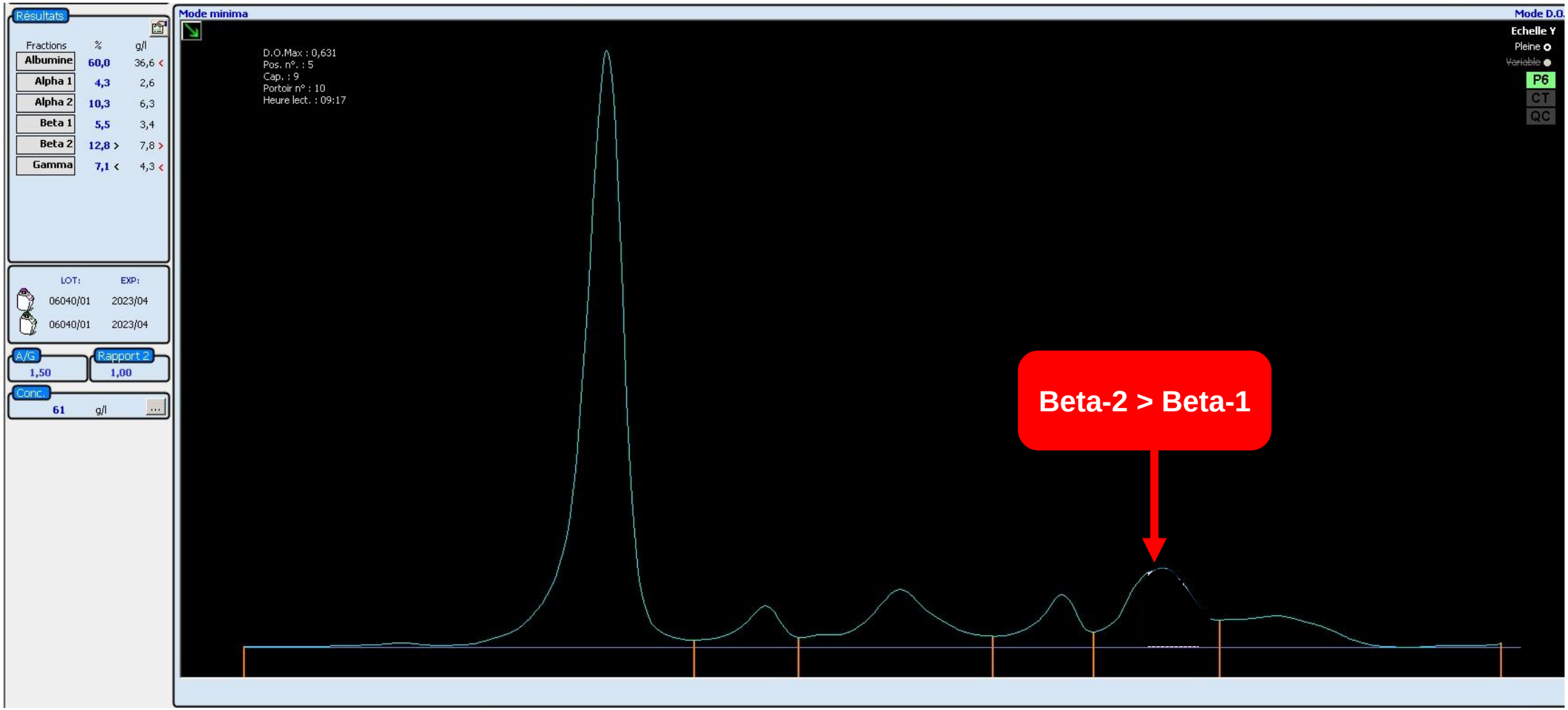
1. • Mezclar 180 µL Suero + 3 µL DTT (0,5 M en diluyente DTT)
2. • Incubar 10 minutos a T° ambiente
3. • Analizar la muestra tratada inmediatamente

Tratamiento con solucion reductora

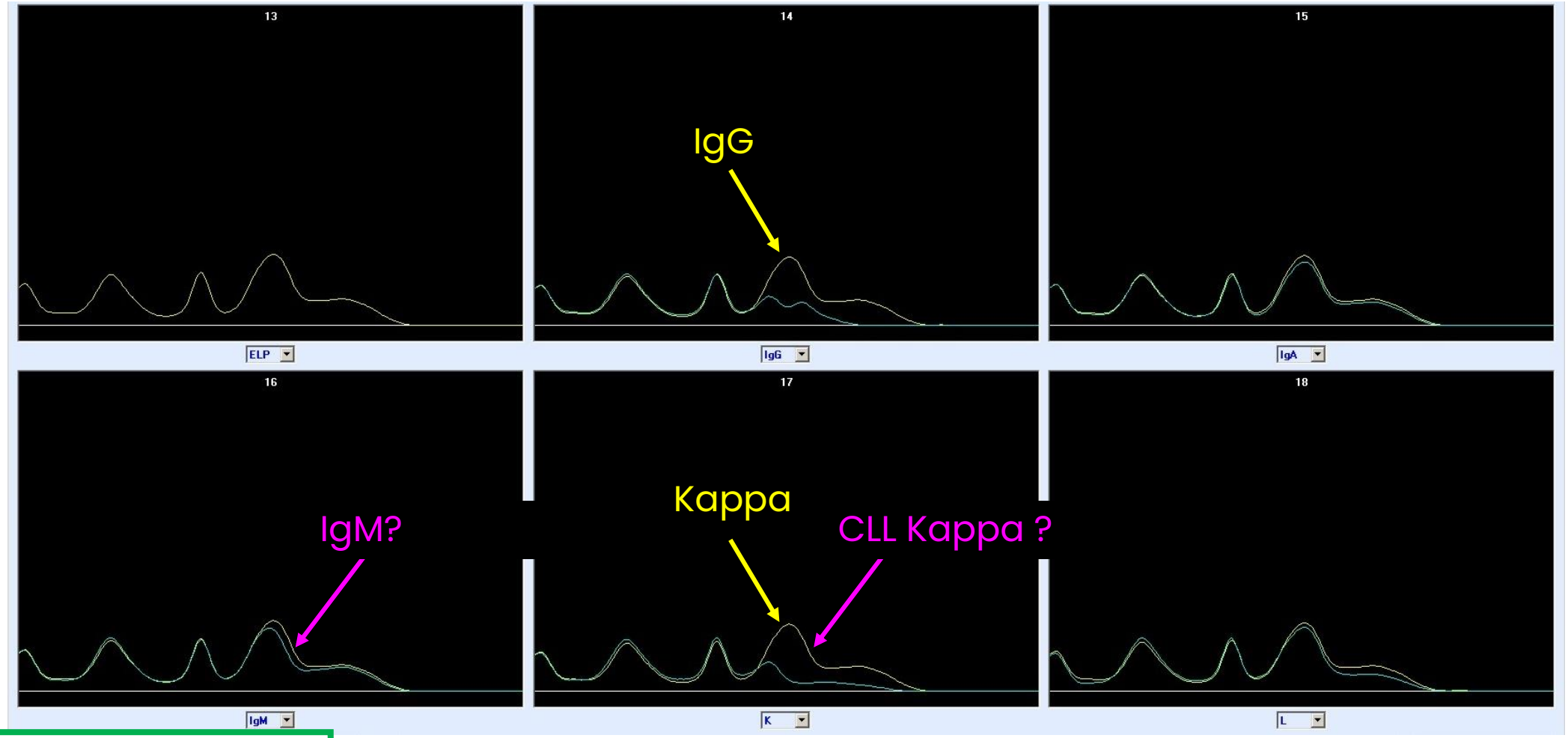
Inmunofijacion



Electroforesis de proteinas



Immunotyping (zoom x4)



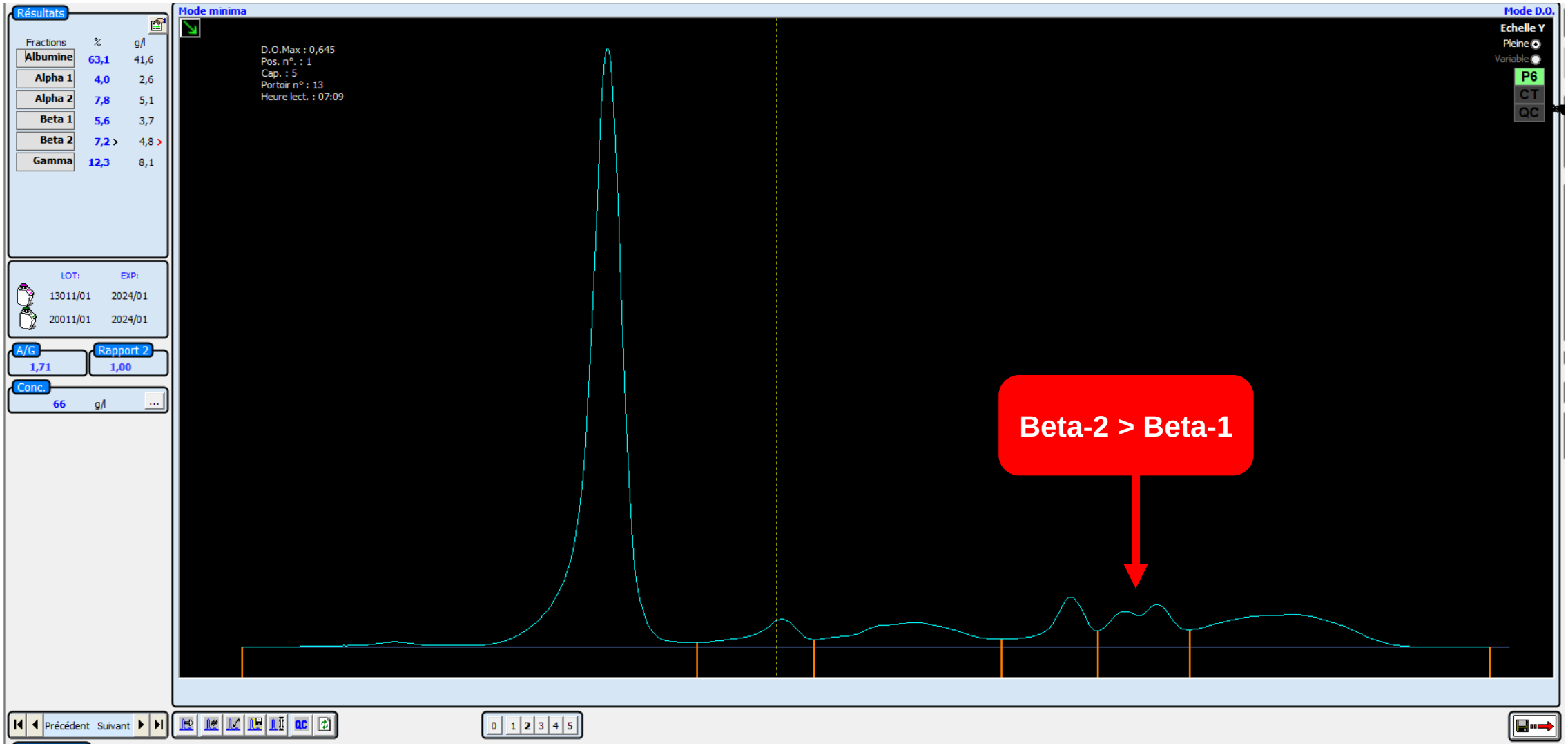
A. IgG Kappa

B. Probable cadenas livianas libres Kappa

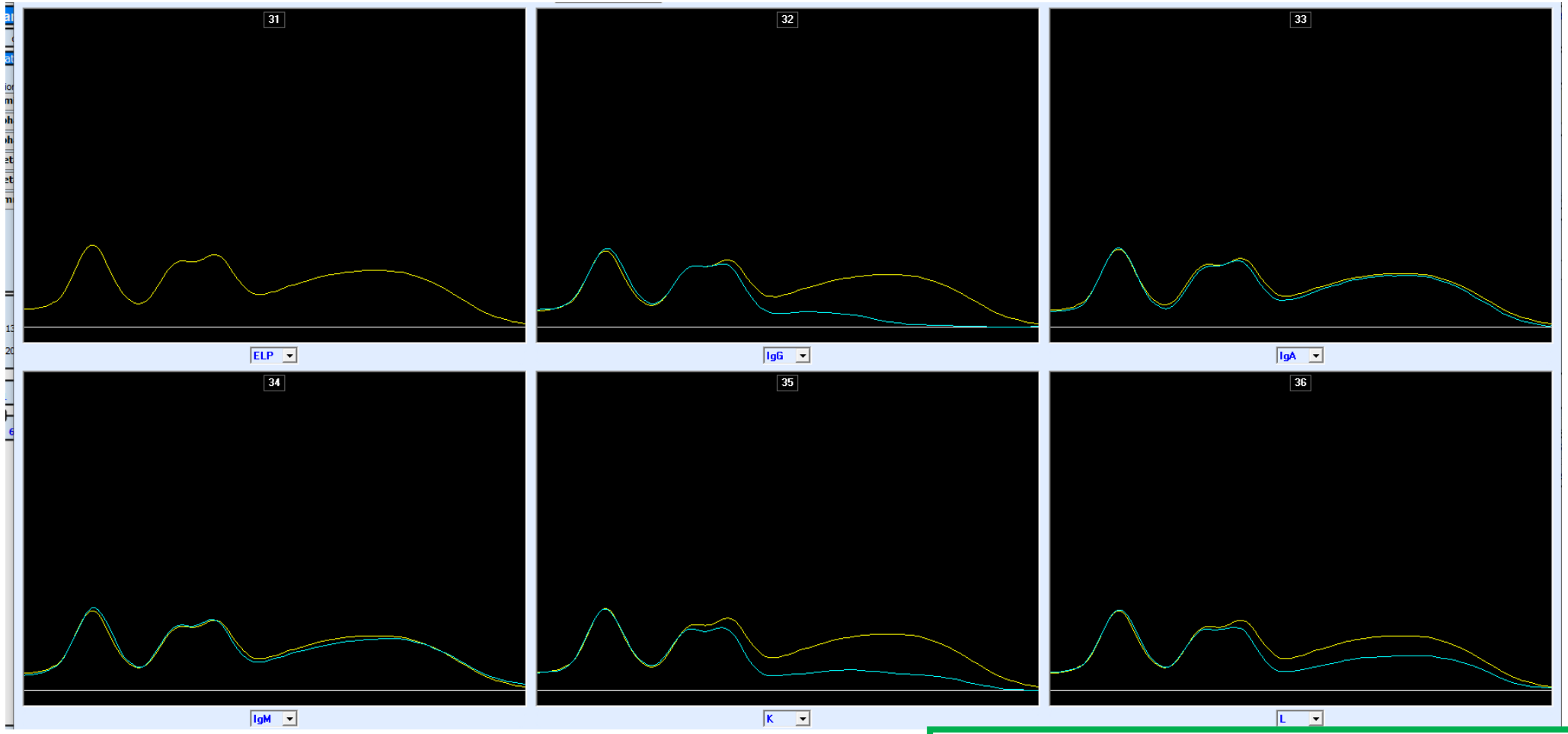
C. Aumento policlonal de IgA

D. Probable IgM Kappa

Electroforesis de proteinas



Immunotyping (zoom x4)



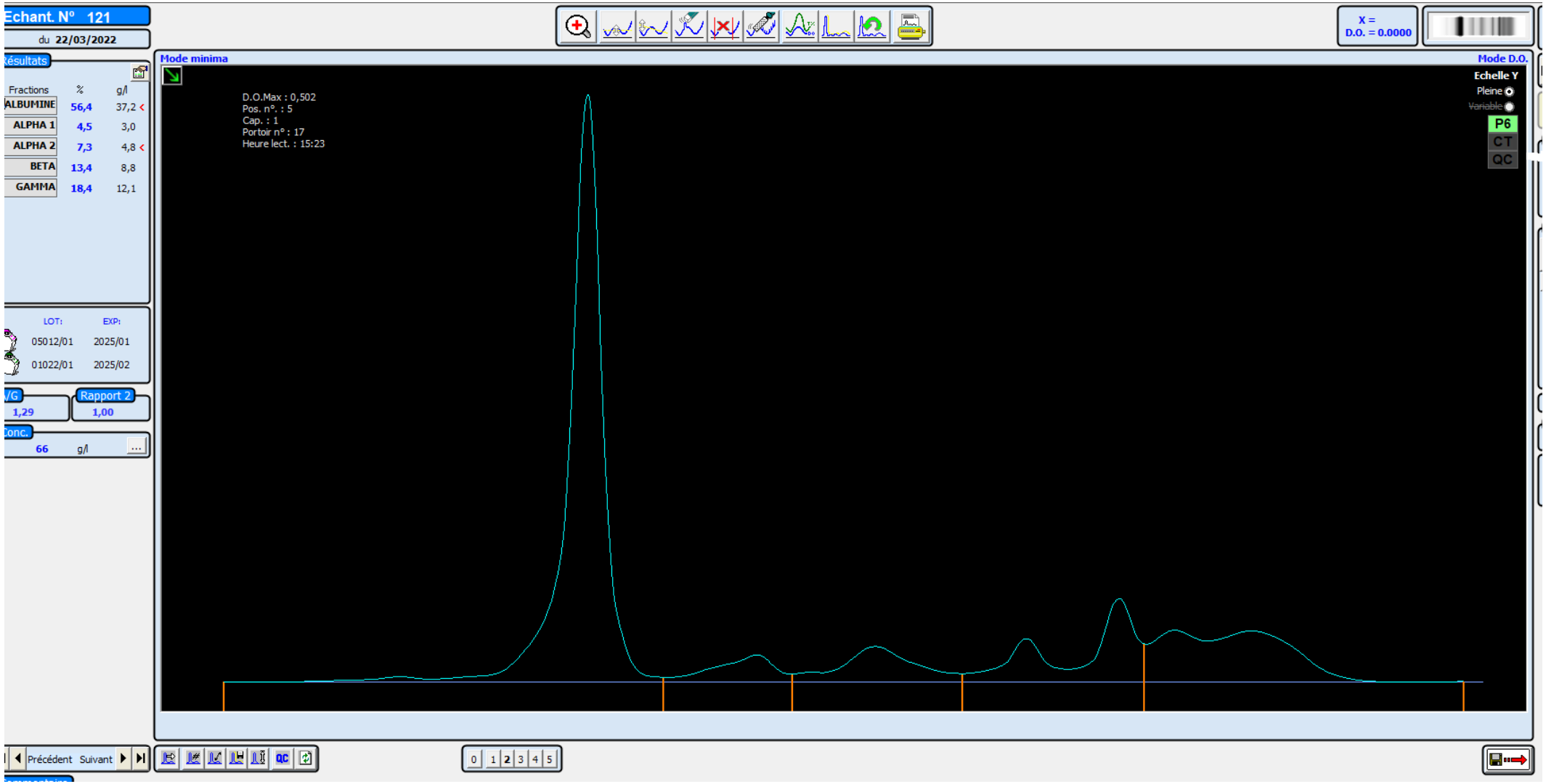
A. Aumento policlonal de IgG

B. Interferencia (fibrinógeno, producto de contraste)

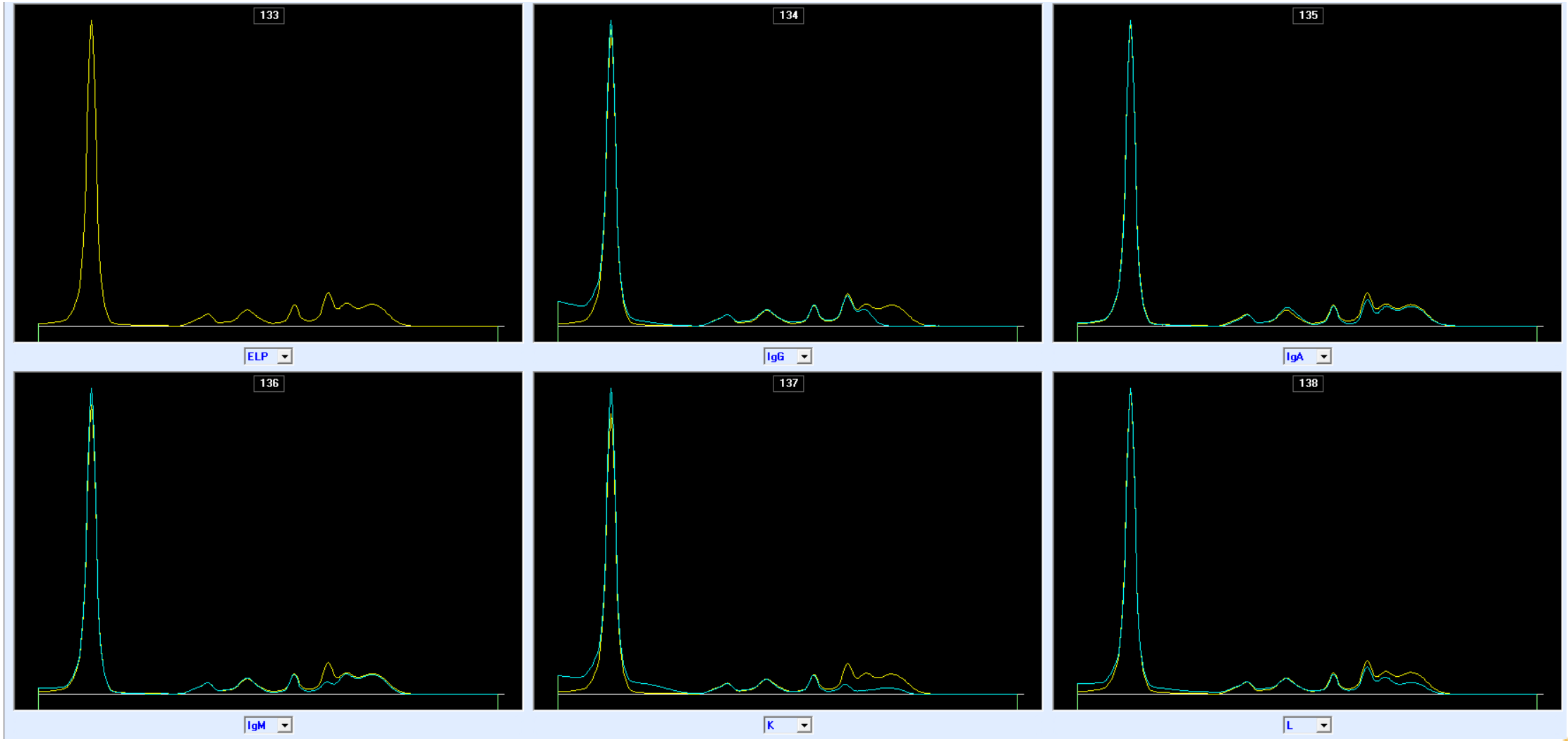
C. Ausencia de proteína monoclonal

D. Cadenas livianas libres Kappa

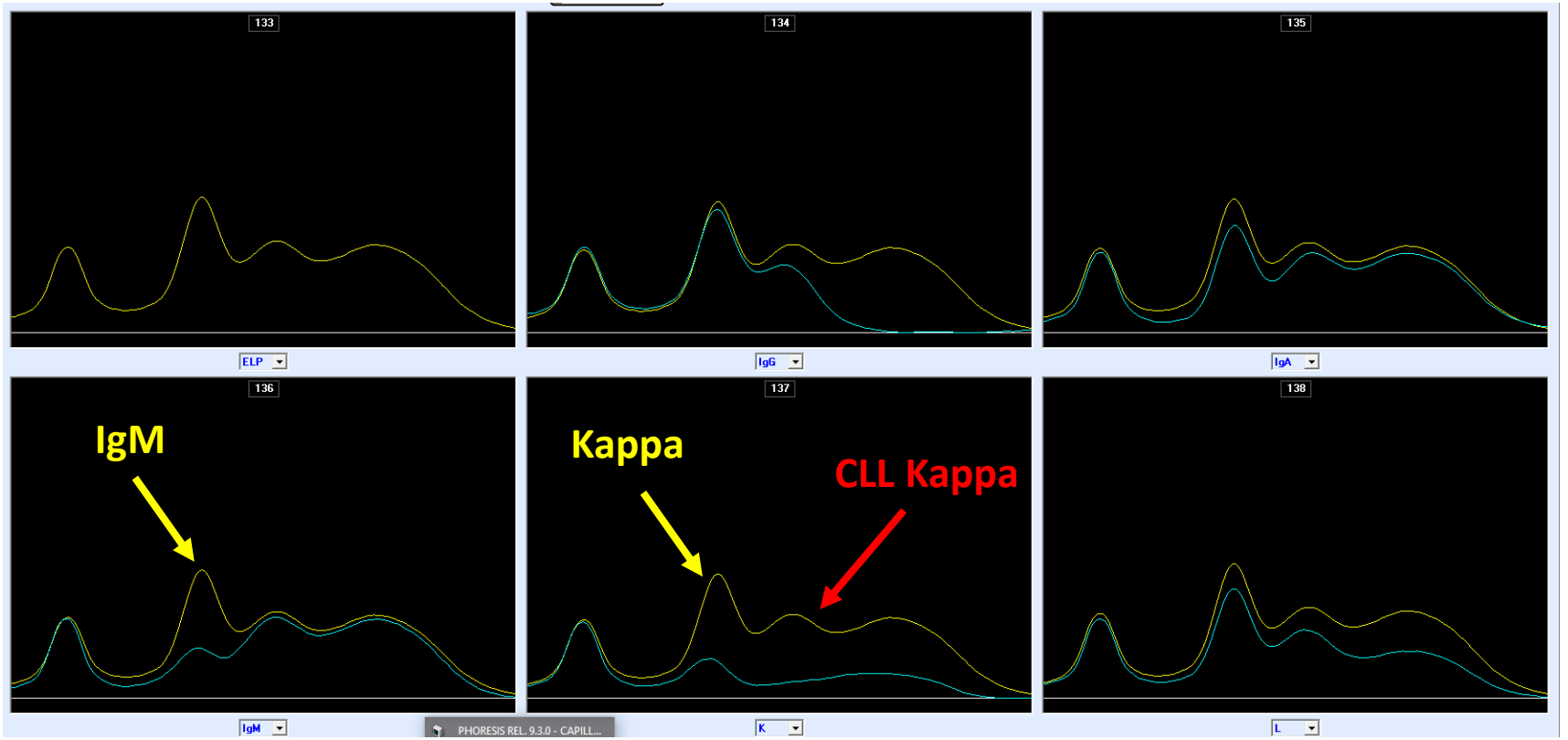
Electroforesis de proteinas



Immunotyping



Immunotyping (zoom x4)



A. IgM Kappa

B. IgG Kappa

C. IgM Kappa + cadenas livianas libres Kappa

D. IgA Lambda policlonal

Thank *you*.

sebia

The new language of life