



μ

μ

μ

μ

μ

μ.

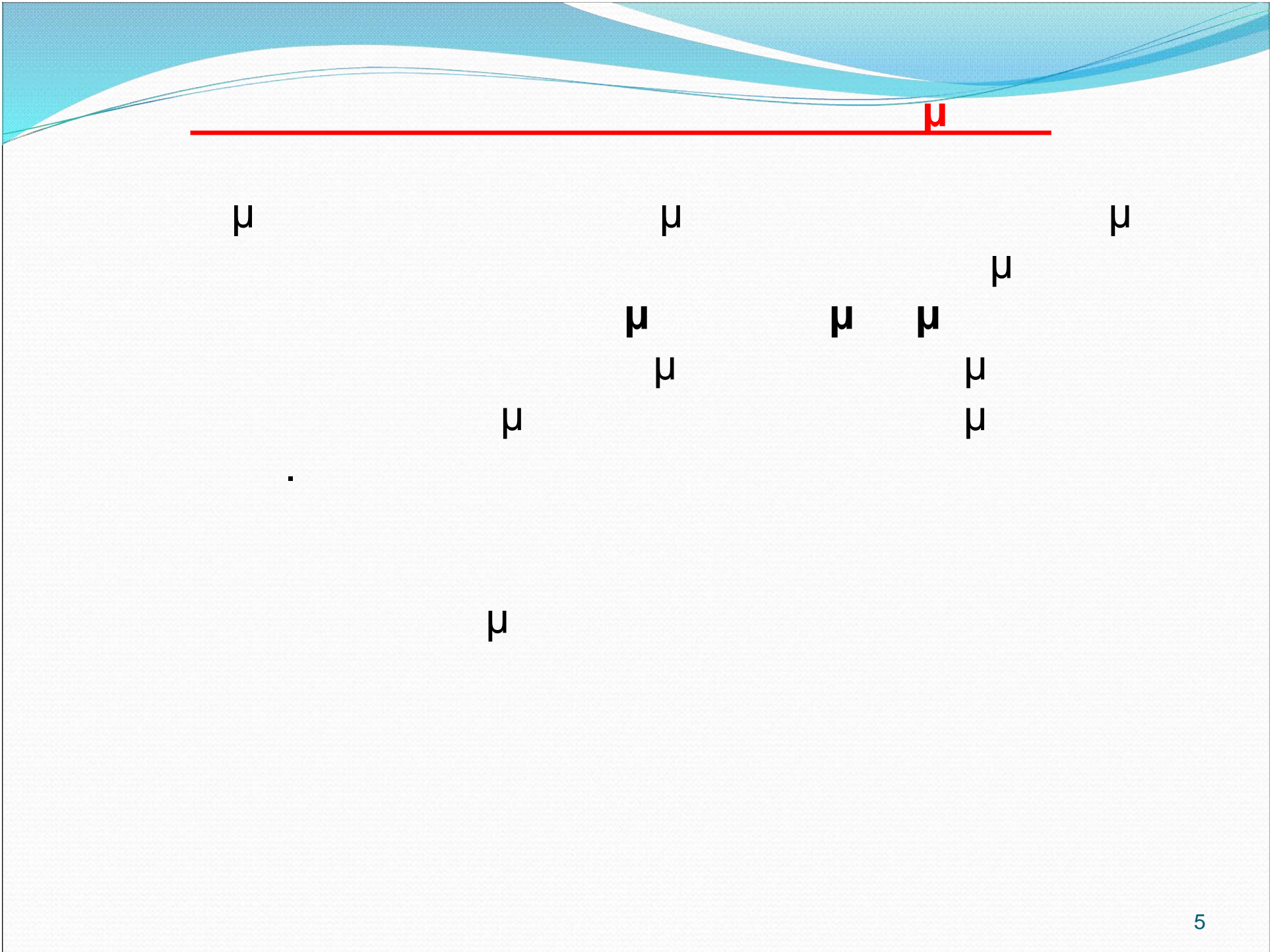
.













μ



μ  
μ

μ ,

μ μ

(adjuvants).

μ μ

, , ,  
.

μ μ

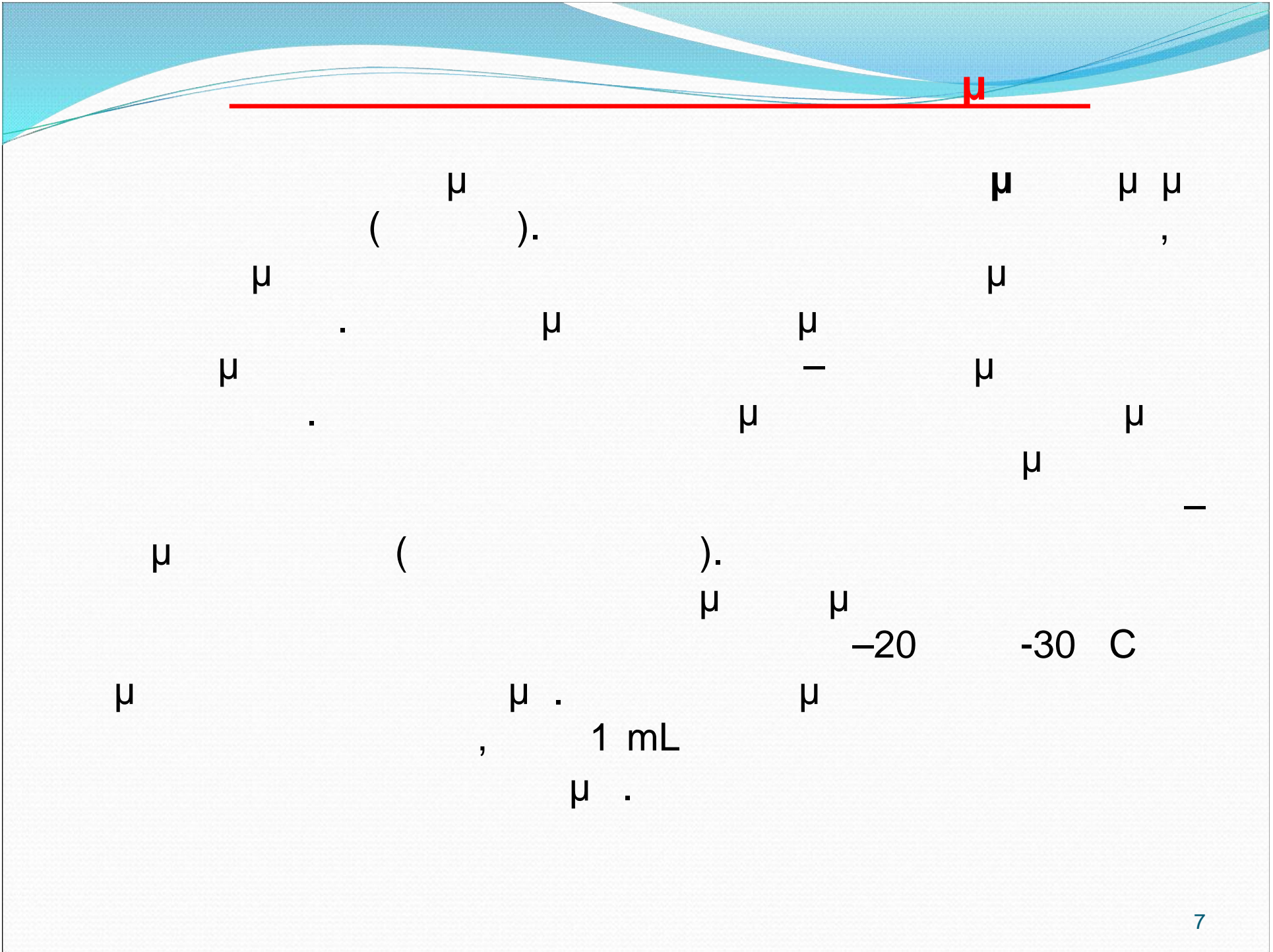
μ .

μ , -

μ

μ

μ





μ

μ (antibodies, Ab)

μ

μ . . μ  
Da.

IgM, IgA, IgE      5 : IgG,  
IgD.      **IgG** (  
IgM)

μ

μ

2

2

μ

μ

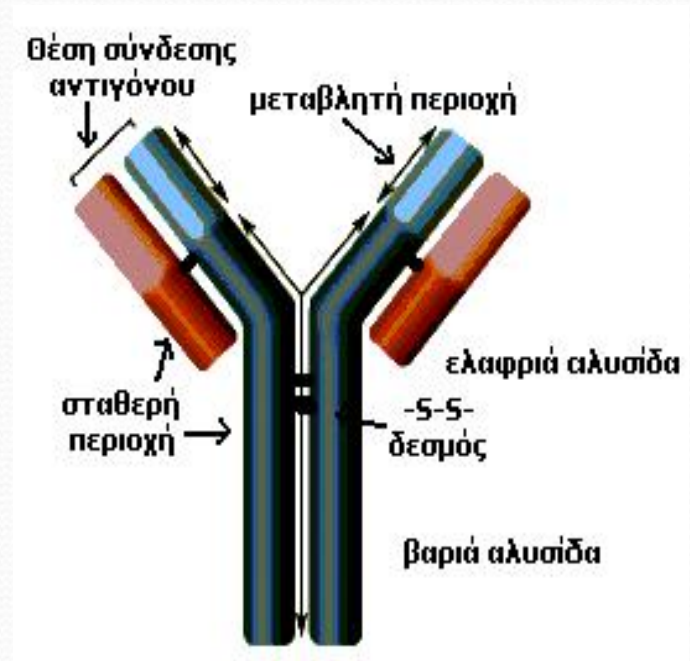
μ

,

“ μ ” .

μ

μμ





μ

IgG

μ ,

μ

μ , μ

μ

**Fc**

2

**Fab.**

μ

μ

μ

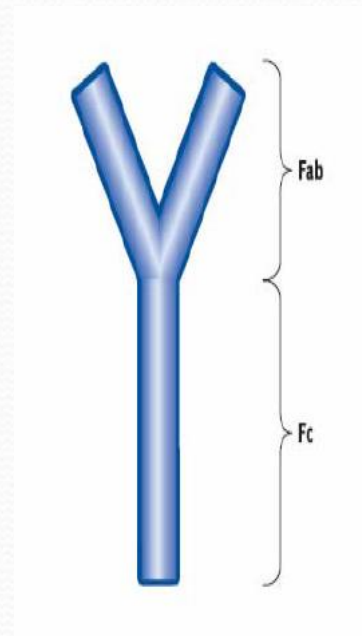
μ μ

μ

μ

μ

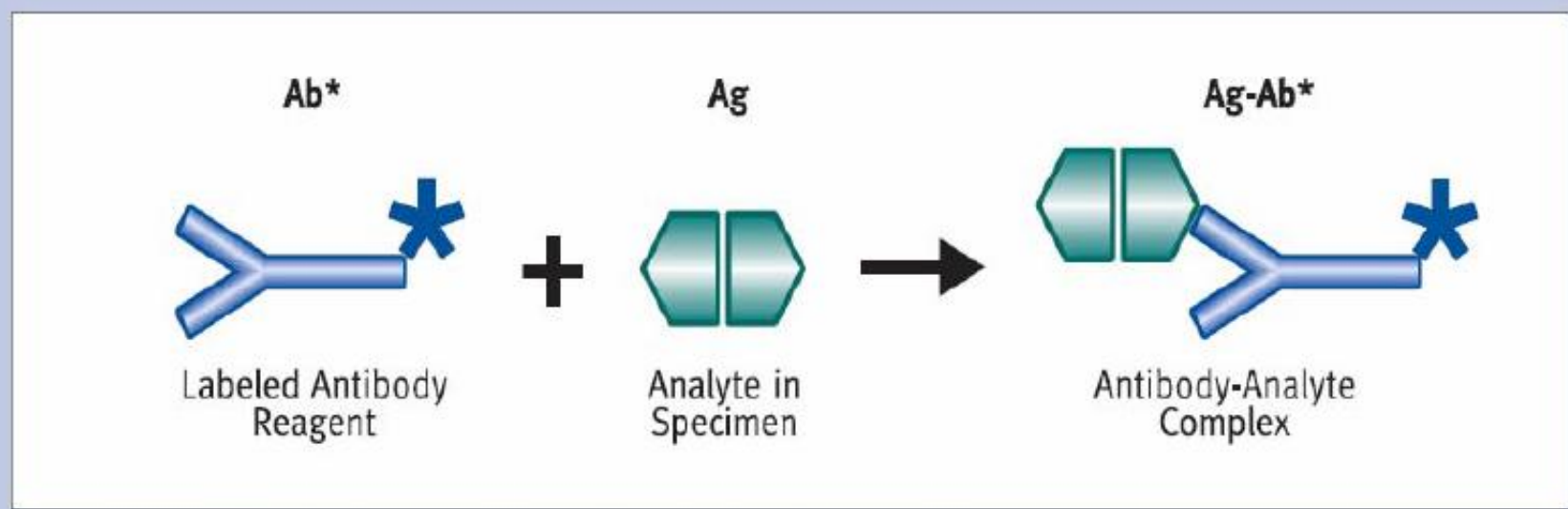
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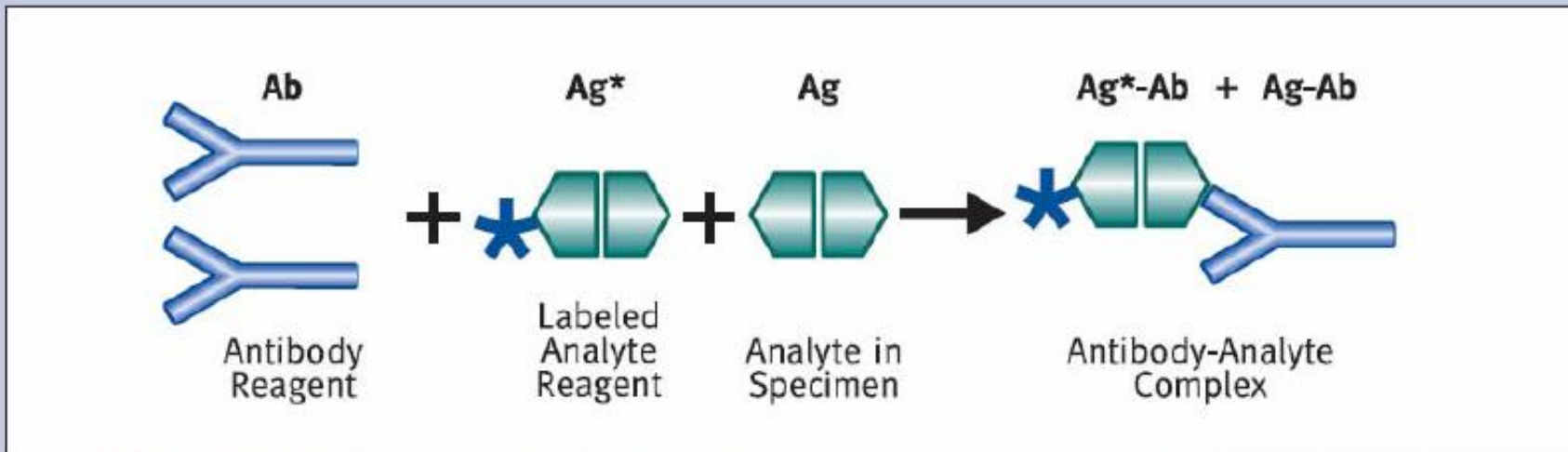








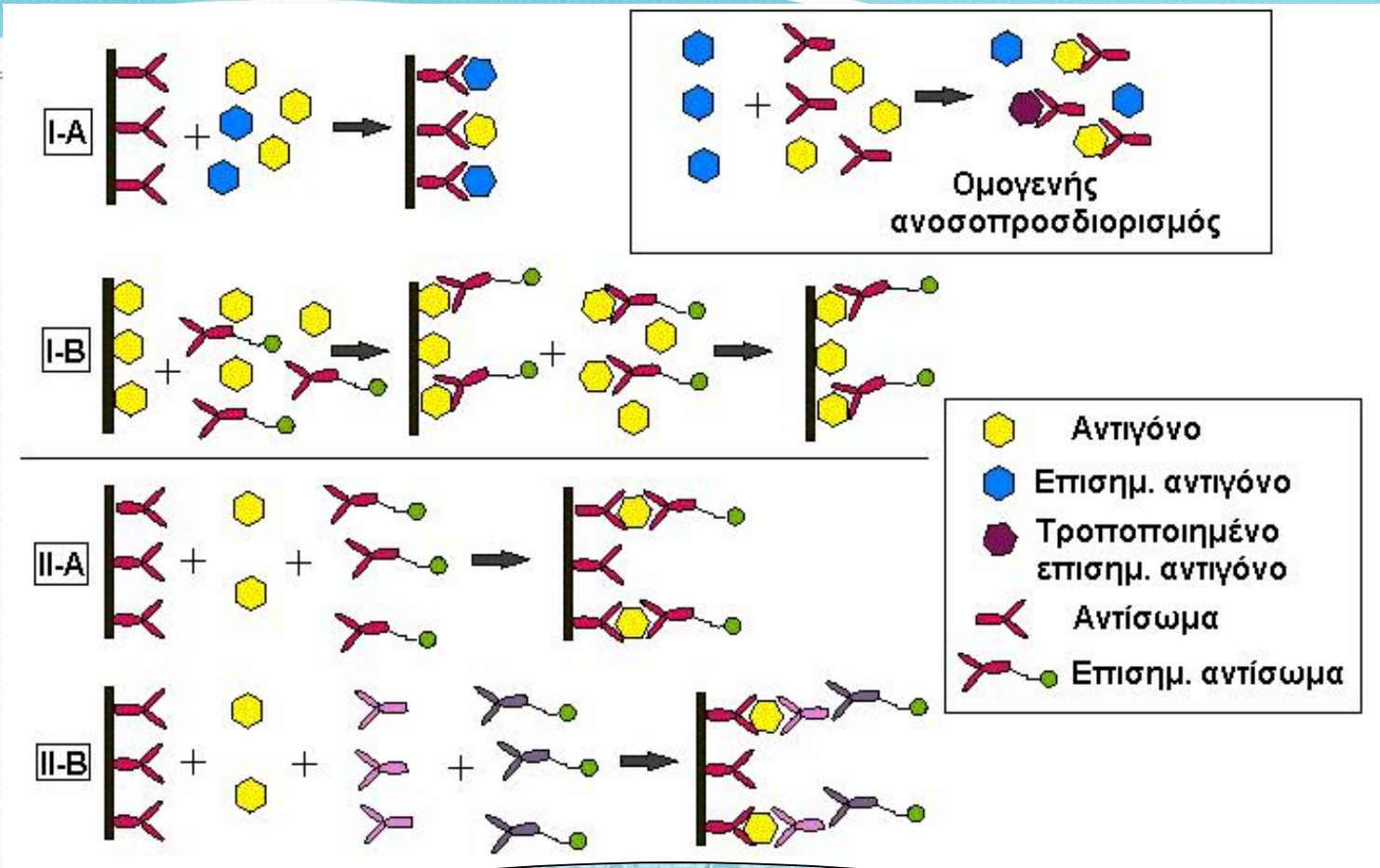
**FIGURE 1-5** Labeled antibodies allow detection of antigen/antibody complexes in immunoassays



**FIGURE 1-6** Labeled antigen also allows detection of antigen/antibody complexes in immunoassays











$\mu$  (RIA)

$\mu$  (Radioimmunoassays, RIA)

$\mu$  RIA

$^{75}\text{Se}$ ,  $^{125}\text{I}$

$\mu$   
 $\mu$   
 $\mu$   
 $\mu$   
)

,  $\mu$

$\mu$  (  $\mu$  -  $\mu$  -

( . .  $\mu$  ,  $\mu$  .)  
 $^3$  ,  $^{14}\text{C}$  ,  $^{131}\text{I}$ ,

$\mu$

$\mu$



-  $\mu$

-

-

-

( ,

,

.

.

$\mu$

$\mu$

$\mu$

$\mu$

,



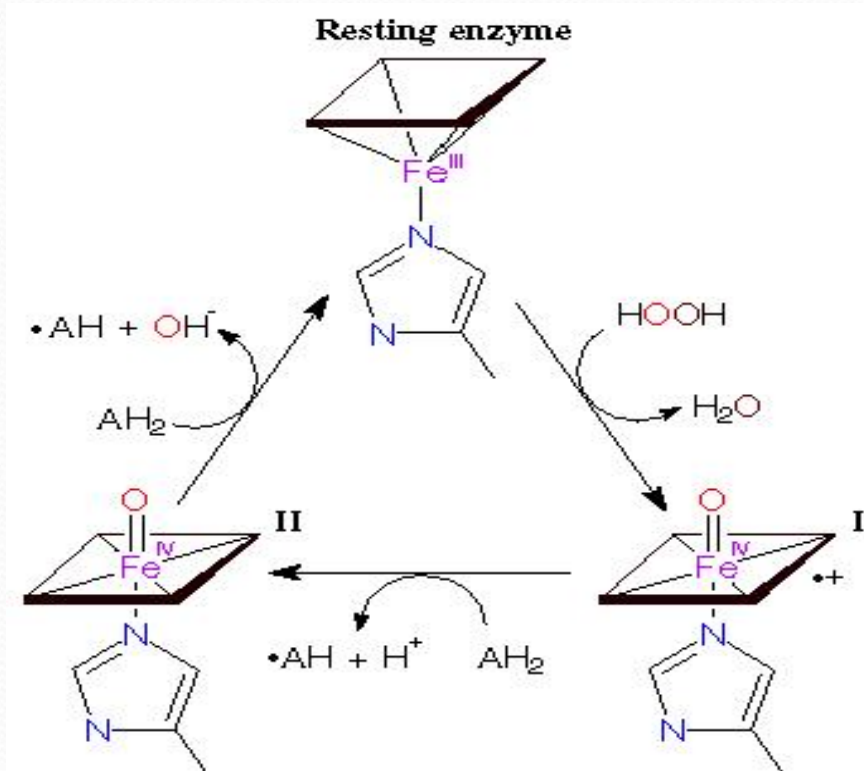






# HRP (HorseRadish Peroxidase)

•  $\mu$   $\mu$  ,  $\mu$   $2$   $2$   $e^-$ ,  
 $\mu$   $\mu$



• 7 HRP.  
 $2$   
 $4 \mu$   
 $\mu$  ( . . . )

*Armoracia rusticana*  
 . Cruciferae



HRP

μ μ

μ

μ

μ

,

μ

,

,

,

,

μ

μ

.

μ

ELISA

μ

μ

μ

μ

(Western blotting).

μ

HRP μ

μ

-

:

μ

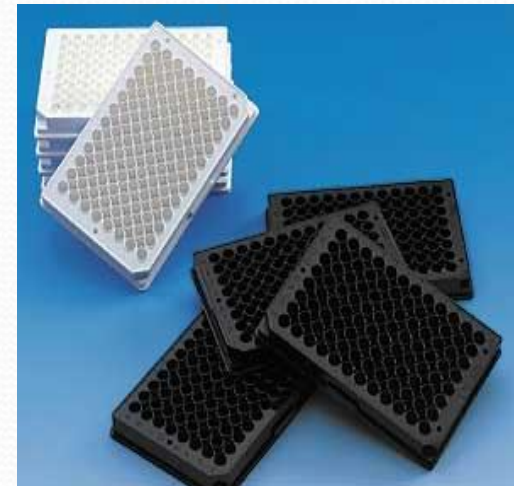
μ

μ

μ

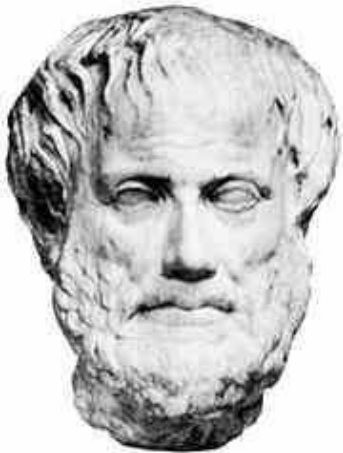
μ

μ

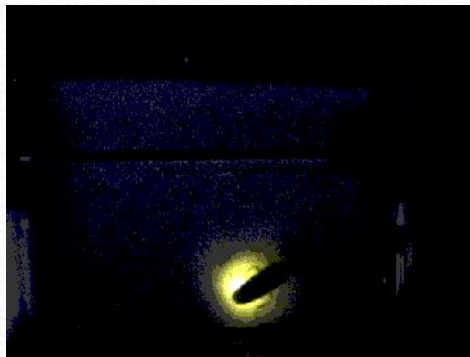




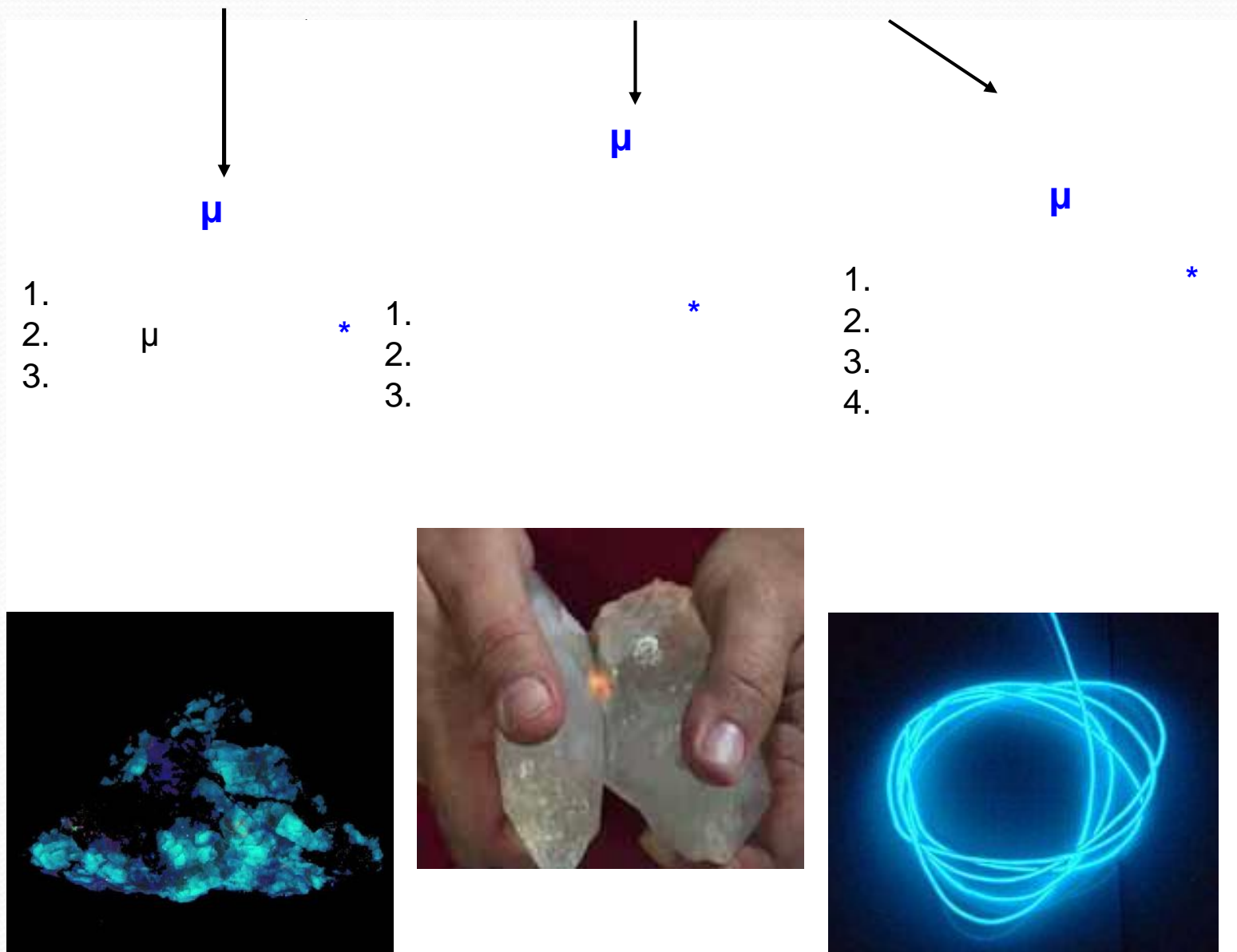
Φωταύγεια: το φαινόμενο της εκπομπής ακτινοβολίας κατά τη μετάβαση ενός μορίου από μία διεγερμένη στη θεμελιώδη ενεργειακά κατάσταση



« »



# Φωταύγεια (Luminescence)





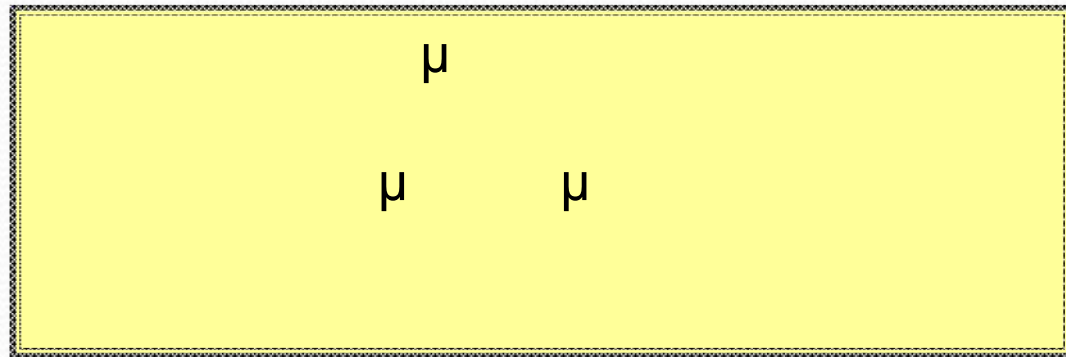
(Luminescence)



$\mu$

-  
(Bioluminescence)

-  $\mu$   
(Chemiluminescence,  
CL)



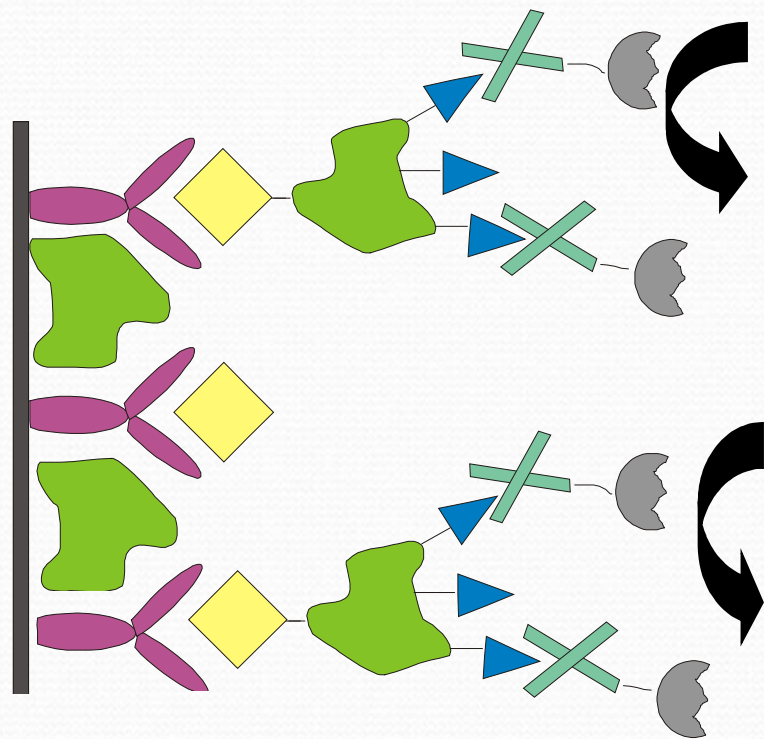






μ μ μ μ μ

μ μ mini μ 6



μ

μ

6 μ PBS-  
tween 20 0,05 % (v/v)

- b (1 : 2000)  
100 μL / , 4 °C
- 1 % SA / PBS  
200 μL / , 1 h RT
- 50 μL /  
50 μL / . (1:700)  
1 h RT 0,1 % BSA/PBS, tween  
20 0,05 %
- – HRP (1 : 1000)  
100 μL / , 30 min RT,  
assay buffer
- TMB 30 min RT  
100 μL /
- 2M H<sub>2</sub>SO<sub>4</sub>, 450 nm



