

Title: Six month cellular and humoral immune responses after second shot mRNA vaccination or SarS Cov- 2 infection: a pilot study in Attica, Greece



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Materials, Subjects and methods

- **The purpose** : to evaluate cellular and humoral immunity after six month second shot mRNA vaccination **or** SARS-CoV-2 infection
- **Subjects**: A total of 52 subjects and 11 individuals respectively after vaccination ([BNT162b2](#)-Cominraty or Moderna- Spikevax), or mild illness and 12 healthy non vaccinated control group were included in the study.
- **Techniques**: the SARS COV 2 Interferon gamma release assay (Euroimmun) and IgG(ab) quantitative to spike protein using the Architect platform (Abbott).

- IGRA 0-500 mIU/ML
- Most of the subjects exhibited 500- more than 10000 AU/ml
- IGRA 501-2000 mIU/ML
- Most of the subjects exhibited 1000 to more than 10000 AU/ml
- IGRA > 2000
- Most of the subjects exhibited 1000- 10000 AU/ml

(Panel I) Correlation of IGRA to Sars COV2 IgG in six month interval after 2nd shot mRNA vaccine		
IGRA TEST	IgG	Number of subjects
(Euroimmun) mIU/ml	(Abbot platform) AU/ml	
IGRA 0-500	<ul style="list-style-type: none"> • 500 – more than 10000 (2 specimen at highest Ab levels) 	11
	<ul style="list-style-type: none"> • 0-500 	1
	Total	12
IGRA 501-2000	<ul style="list-style-type: none"> • <1000 	13
	<ul style="list-style-type: none"> • 1000-10000 	6
	<ul style="list-style-type: none"> • < 10000 	11
	Total	30
IGRA > 2000	<ul style="list-style-type: none"> • <1000 	3
	<ul style="list-style-type: none"> • 1000 - 10000 	12
	Total	15
	Total number of individuals participating	52
Panel II Correlation of IGRA to Sars COV2 IgG after six month mild illness		
431-3434 mIU/ml IGRA test	56-2464.2 mAU/ml IgG Abbot	11 patients

Results and conclusions

- **IgG spike levels were higher** in **high interferon gamma** positive individuals.
- Subjects after COVID 19 infection have shown high levels of IgG when IGRA test was highly positive and with longer history of illness.
- **mRNA vaccines demonstrate moderate to high levels of immunological responses in most of the individuals that usually correlate with IgG antibody levels.**
- Although it is believed that IGRA-based tests should be performed within a few weeks following vaccination our results show T -cell **response exhibiting ≥ 2000 mIU/ml** correlated to **ab levels ≥ 1000 AU/ml at 6 months** after vaccination.
- Seven out of 11 convalescent individuals showed high T -cell responses correlating with high levels of antibodies.
- No significant difference was shown in levels of interferon IGRA test between **men and women**.

Results and conclusions

We believe that

*the developed tools **to test** immuno-triggering of mRNA vaccines and infection are of high importance in public health and they represent a usefull tool in monitoring of immunity in NCDs patients.*

Results and conclusions

Panel I Correlation of IGRA to Sars COV2 IgG in six month interval after 2nd shot mRNA vaccine		
<i>IGRA TEST,</i> [mIU/mL] <i>(Euroimmun)</i>	<i>IgG</i> <i>(Abbot platform)</i>	<i>Number of subjects</i>
IGRA 0-500	a. 500 – more than 10000	11
	b. 0-500	1
Total		12
IGRA 501-2000	a. <1000	13
	b. 1000-10000	1
	c. < 10000	11
	d. <400	5
	e.	
Total		30
IGRA > 2000	a. <1000	3
	b. 1000 - 10000	8
	c. <600	4
Total		15
Total number of individuals participating		52
Panel II Range of Ab abd IGRA test six month after mild illness		
11 patients	56,1-2462,4 mIU/ML (Ab)	431.0-3481,6 AU/ml (IGRA)

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Thank you!



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