



Investigation Of The Immunomodulatory Effect Of Pistachio Green Hull Extract

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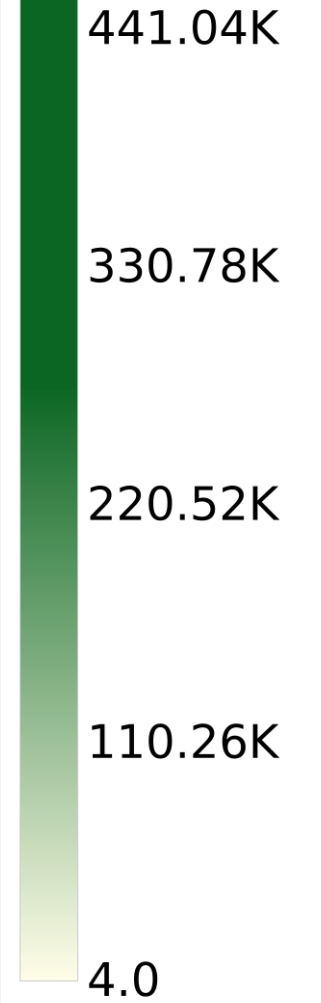
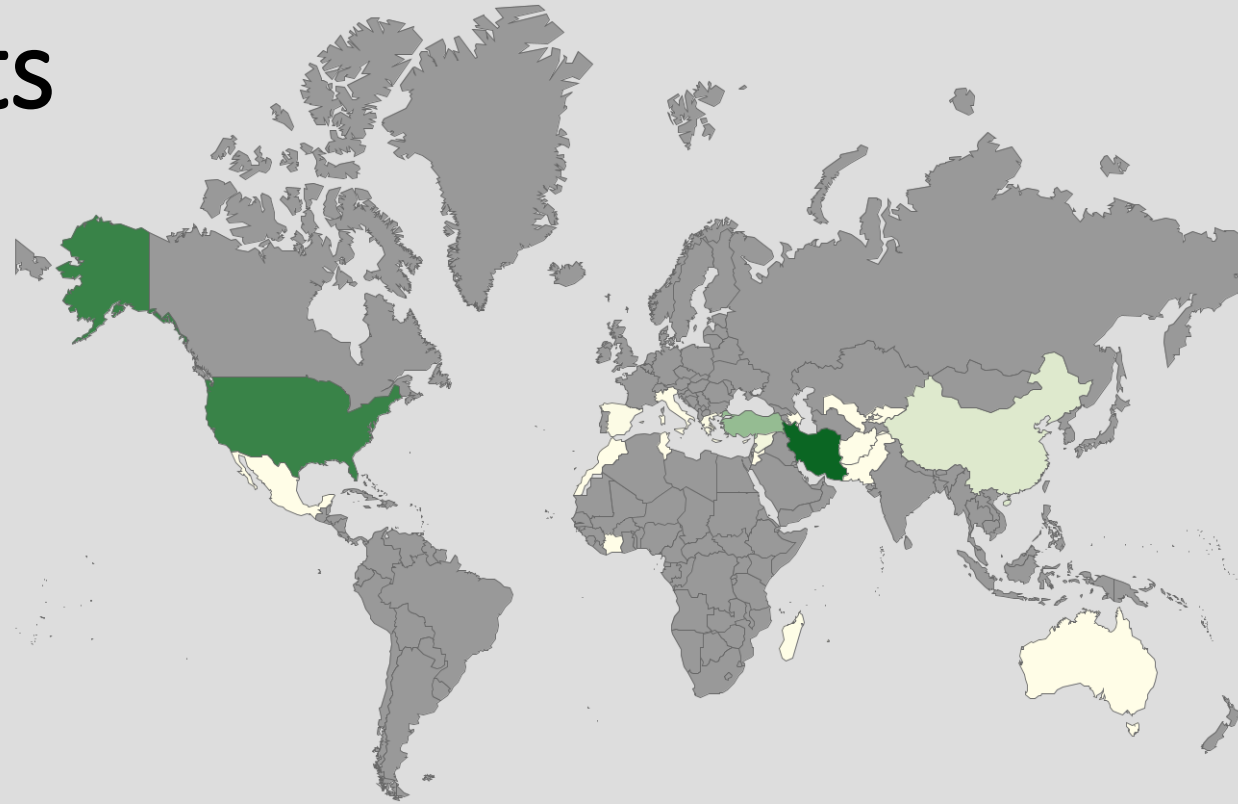
March, 2023

OVERVIEW

- INFORMATION
- PISTACHIO
- PHENOLIC COMPOUNDS
- IMMUNOMODULATION
- PURPOSE OF OUR STUDY
- MATERIAL AND METHOD
- RESULT
- CONCLUSION



Pistachio nuts



Phenolic compounds

Effects of phenolic compounds on human

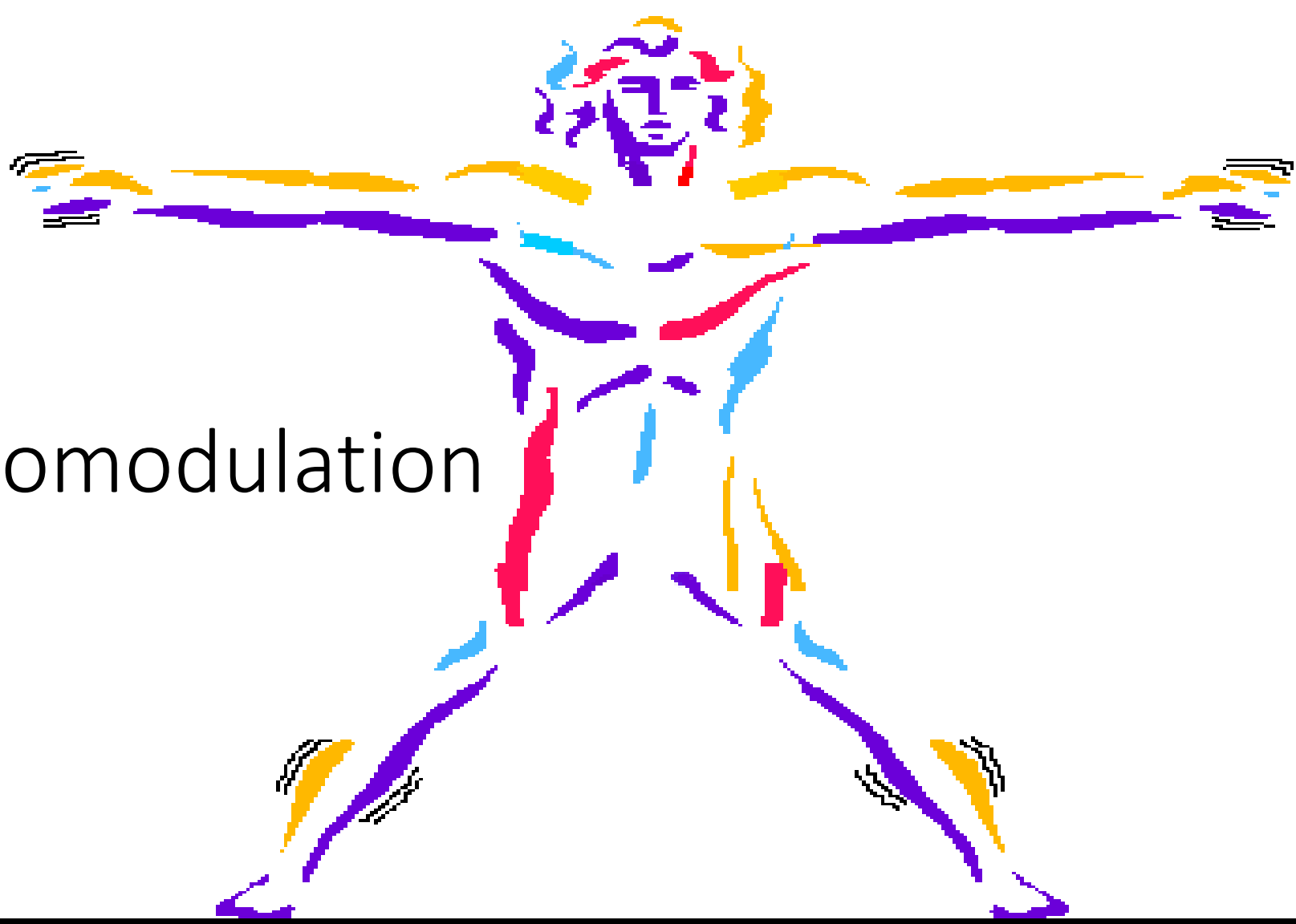
- Anticarcinogenic
- Anti-inflammatory
- Antioxidant
- Antidiabetic
- Antimicrobial
- Antiviral
- Antiallergic
- Antithrombotic
- Antipathogenic



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Immunomodulation



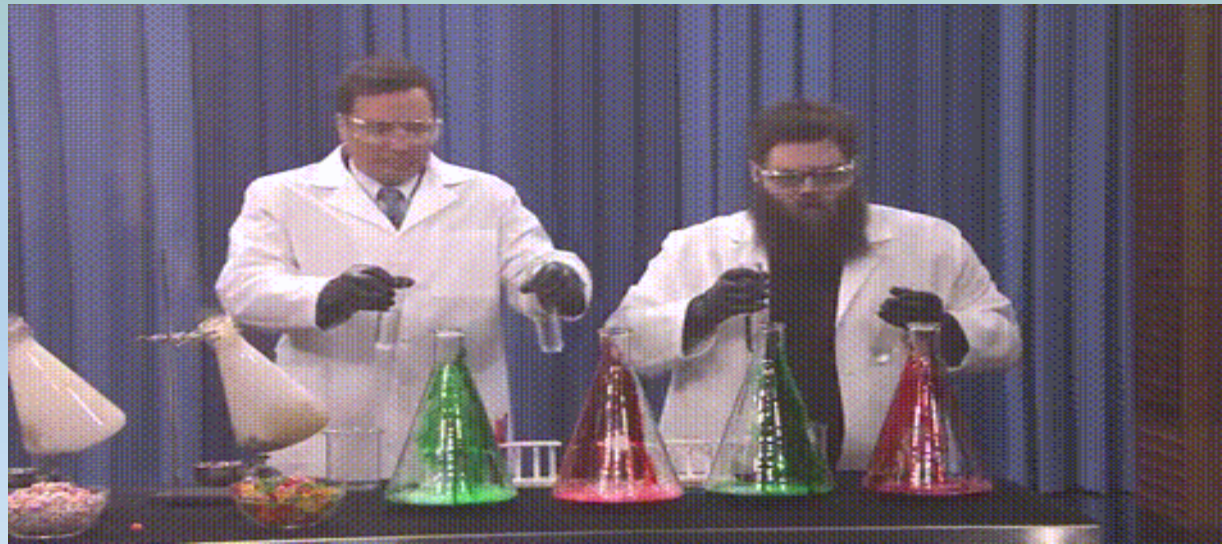


Purpose of Our Study

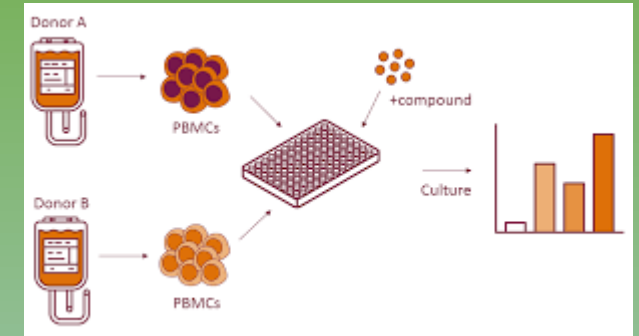


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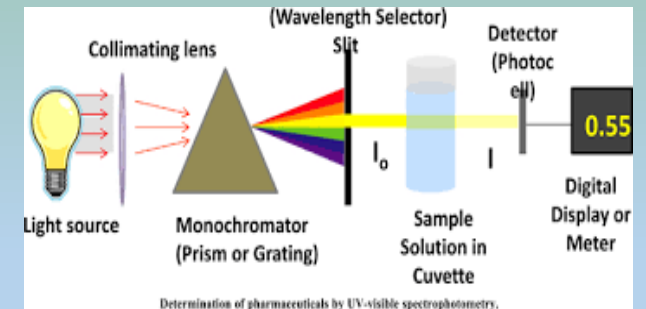
MATERIAL AND METHOD



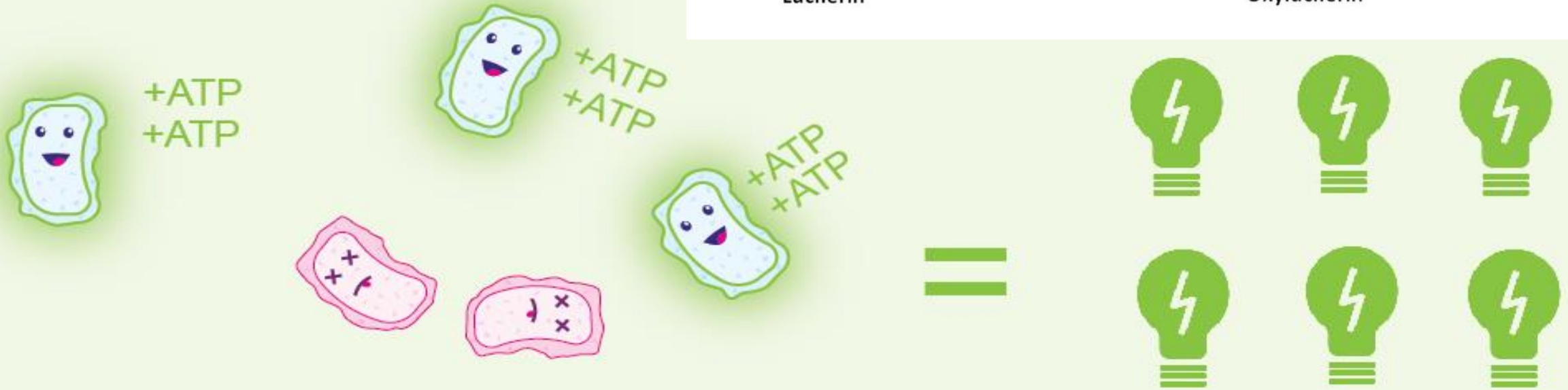
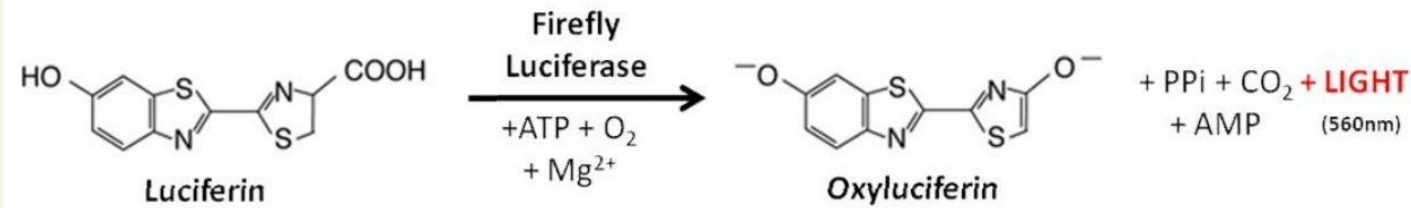
- A lymphocyte pool were created from waste whole blood of healthy individuals.



- Total phenolic content of pistachio extract obtained by appropriate methods were determined spectrophotometrically using Folin-Ciocalteu reagent.



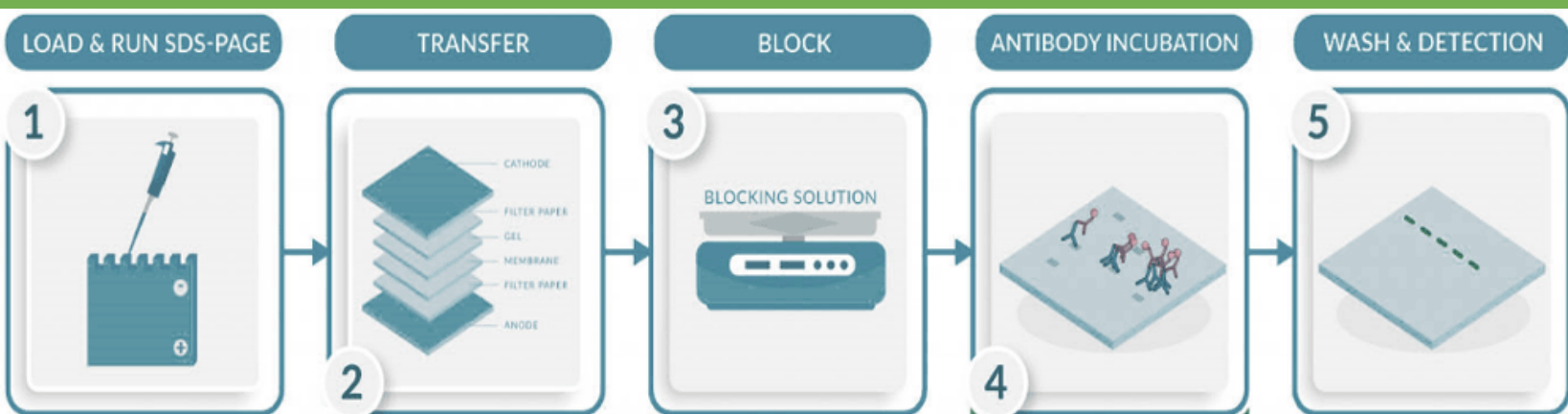
CONCEPT BEHIND THE ATP BIOLUMINESCENCE ASSAY



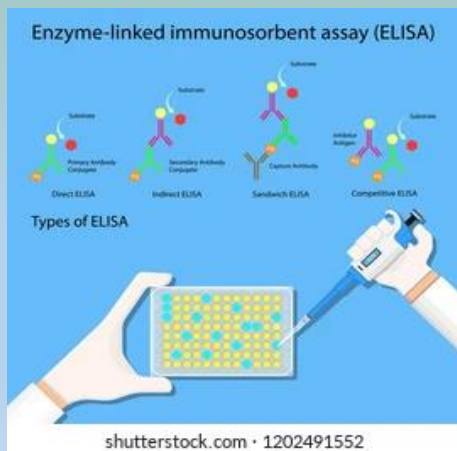
Under stable conditions, it is assumed that the amount of ATP in each live cell will be constant. In this example, each live cell has the same amount of ATP.

The bioluminescence signal produced will be directly related to the amount of ATP.

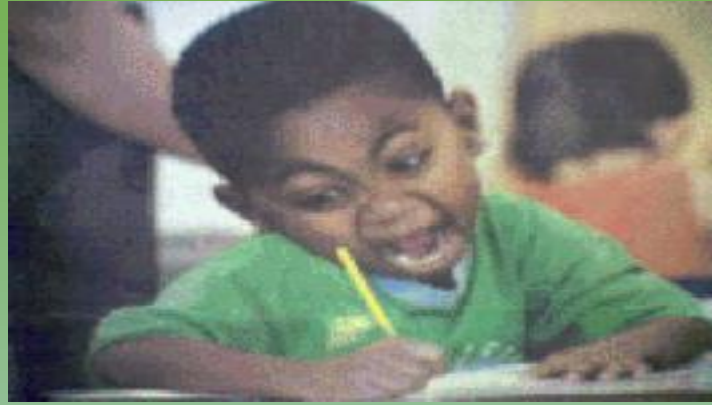
Katharine Martin



- **Western Blot** :Protein expressions of each group were determined with the help of western blot with NFkB primary antibody. And, house-keeping gene antibody beta-actin was used as control. Three groups(control were run in three times, with control, 20 $\mu\text{g/ml}$ and 50 $\mu\text{g/ml}$).



- **Elisa**: Elisa method was used for the measurement of IL values.



RESULT



Flavonoids

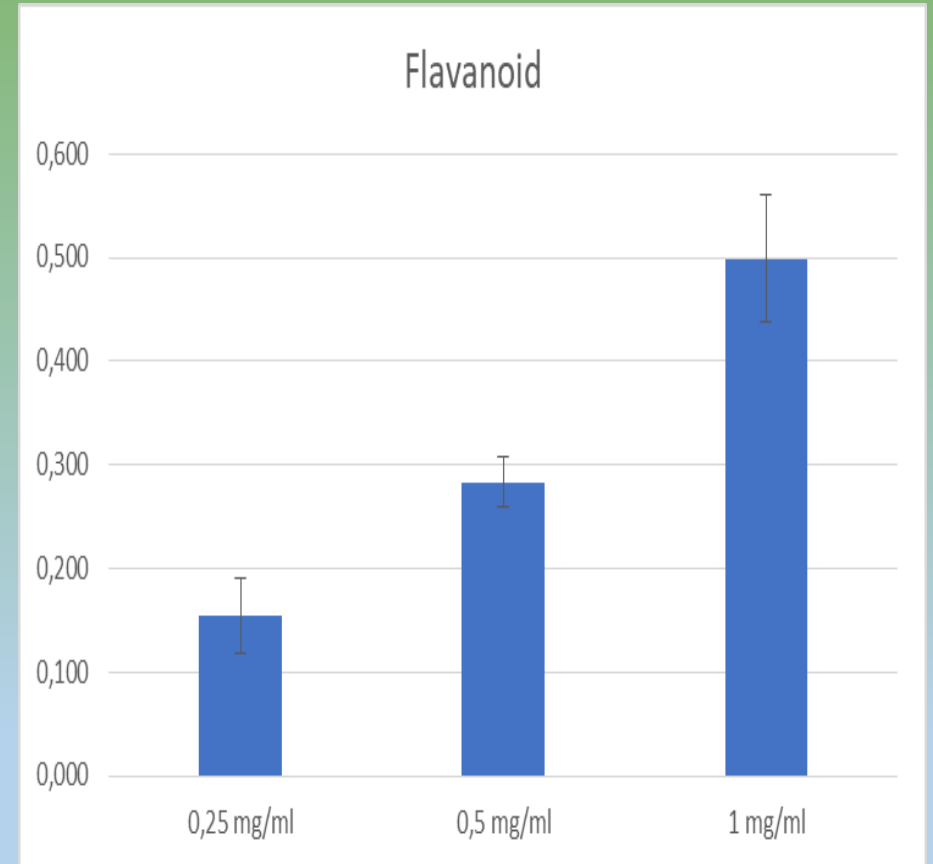
0,25 mg/ml → 0,154 mg que Eq/ml



0,5 mg/ml → 0,284 mg que Eq/ml



1 mg/ml → 0,499 mg que Eq/ml



Phenol

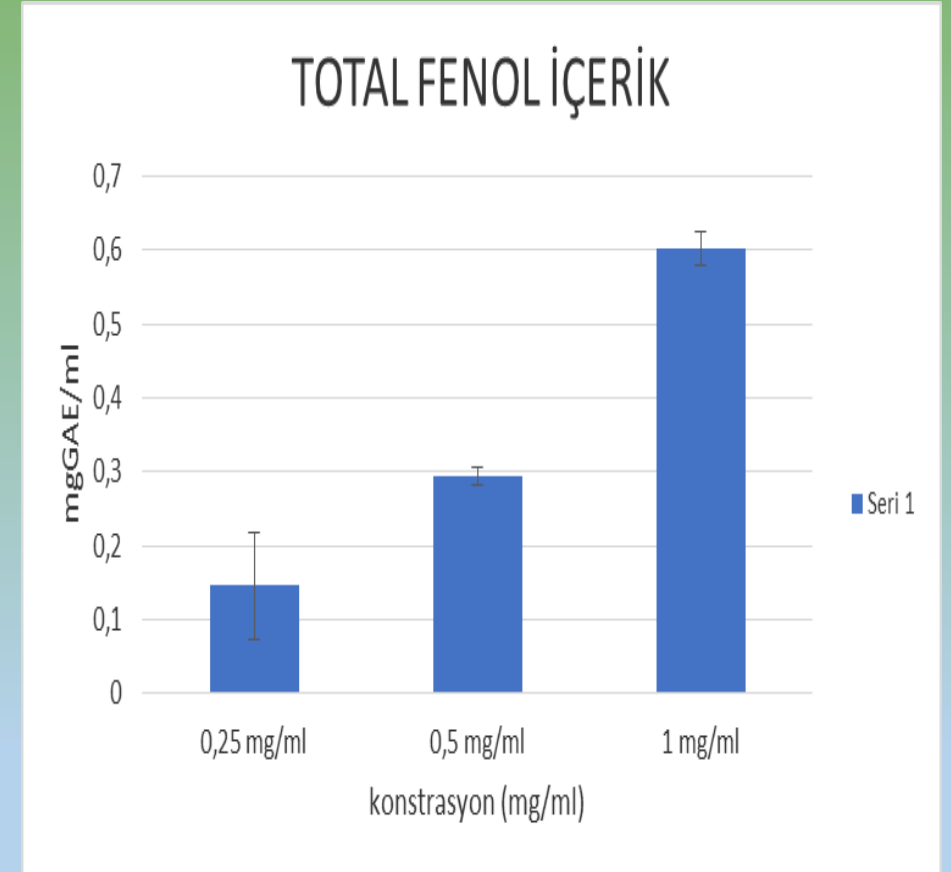
0,25 mg/ml → 0,145 mg GAE/mL



0,5 mg/ml → 0,294 mg GAE/mL

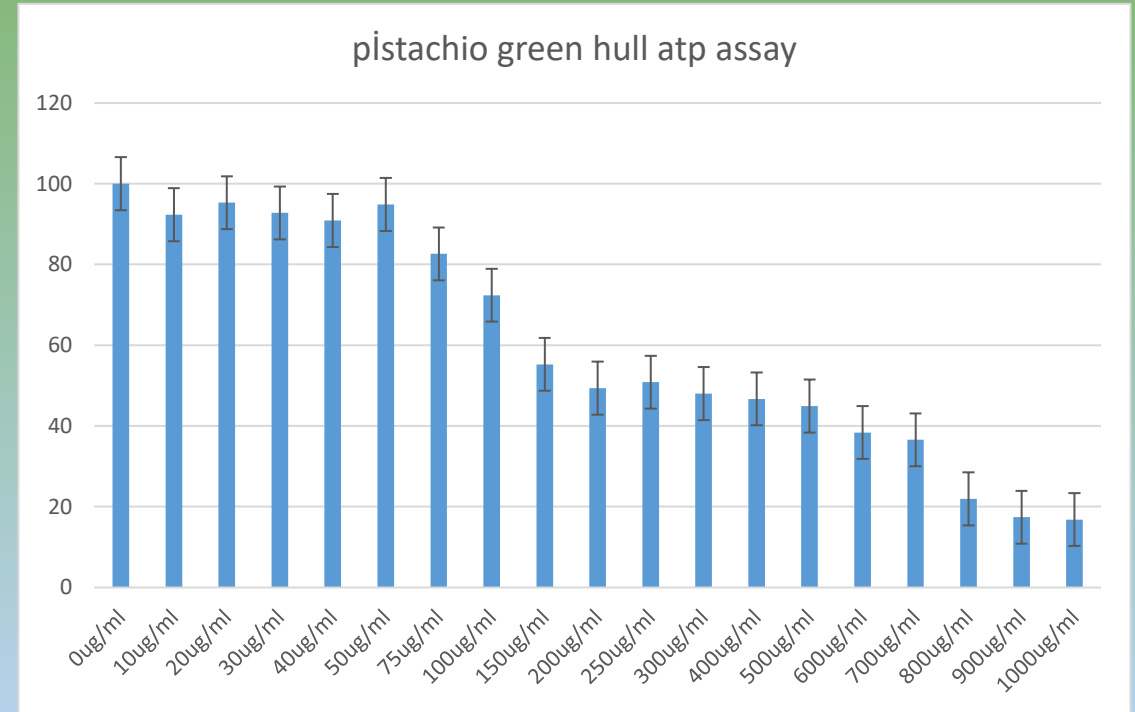


1 mg/ml → 0,602 mg GAE/mL



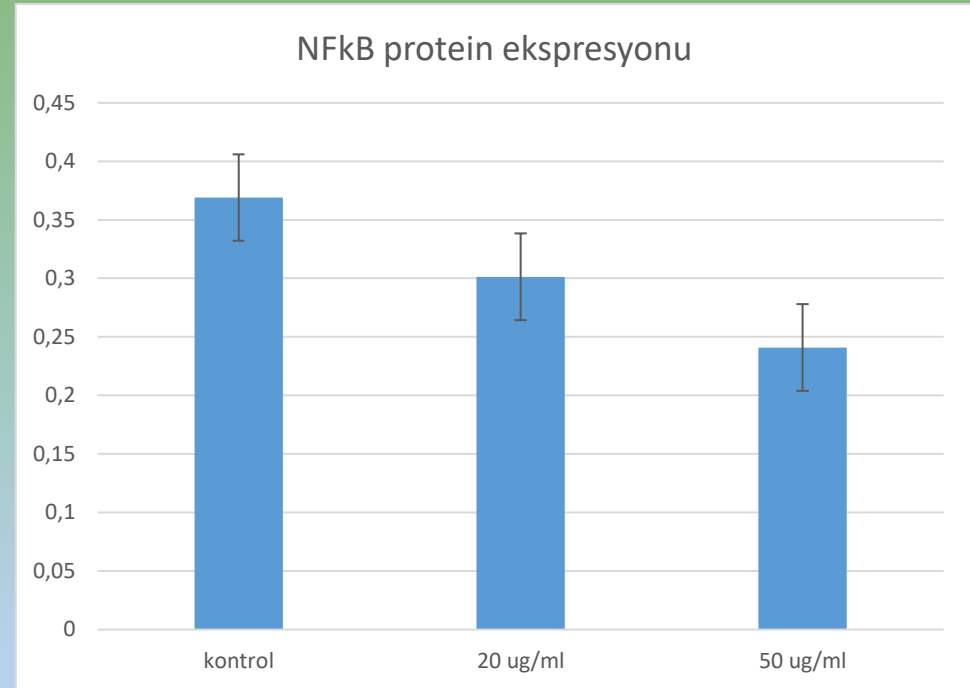
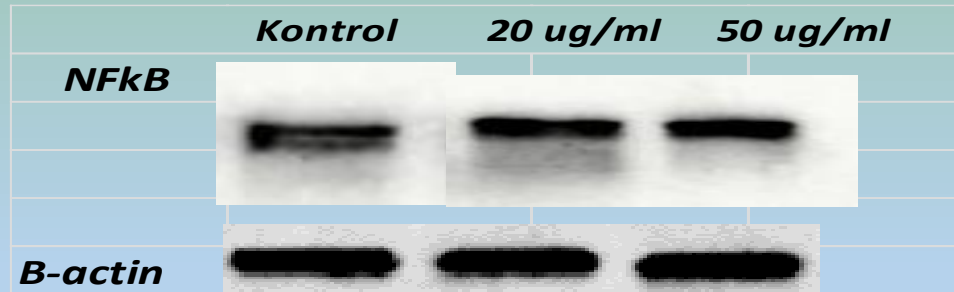
ATP ASSAY

	I	II	III	%			Mean	SD
0ug/ml	286021	273898	274141	100	100	100	100	0
10ug/ml	246366	258421	264374	86,13563	94,34936	96,43723	92	4,446565
20ug/ml	256219	279311	258599	89,58049	101,9763	94,33065	95	5,106375
30ug/ml	219463	256000	296171	76,72968	93,46545	108,036	93	12,79094
40ug/ml	241554	249242	266522	84,45324	90,99811	97,22077	91	5,212877
50ug/ml	222342	251154	341675	91,578	91,69618	101,2	95	4,508257
75ug/ml	216105	238242	233826	75,55564	86,98202	85,29406	83	5,035961
100ug/ml	196775	210795	195525	68,7974	76,96113	71,32279	72	3,412642
150ug/ml	149355	146356	164638	52,21819	53,43449	60,05596	55	3,444056
200ug/ml	126770	148622	135723	44,32192	54,26181	49,50846	49	4,059226
250ug/ml	170248	133001	121717	59,5229	48,55859	44,39941	51	6,379087
300ug/ml	143090	131417	125987	50,0278	47,98027	45,95701	48	1,661902
400ug/ml	134732	131649	122986	47,10563	48,06497	44,86232	47	1,342047
500ug/ml	155514	119101	101093	54,37153	43,48371	36,87628	45	7,213311
600ug/ml	148529	95623	77474	51,9294	34,91197	28,26071	38	9,966829
700ug/ml	180016	68308	59796	62,93804	24,93921	21,81206	37	18,69354
800ug/ml	77064	55822	50670	26,94337	20,38054	18,48323	22	3,624678
900ug/ml	55914	47063	42208	19,54874	17,18256	15,39627	17	1,700738
1000ug/m	56150	44097	40327	19,63125	16,09979	14,7102	17	2,07147



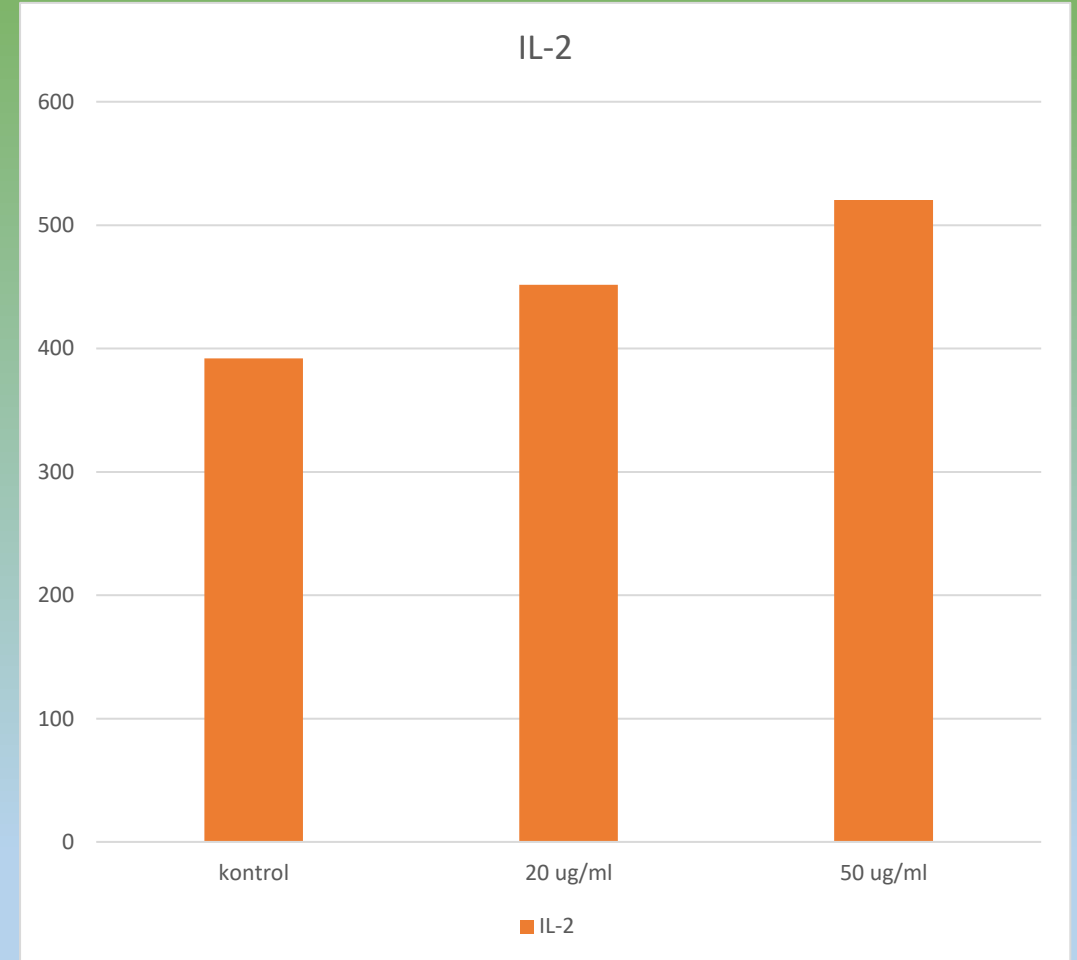
WESTERN BLOT

	nfkb		b-aktin		ratio
	area	percent	area	percent	
kontrol	14.142,20	11,71	33.257,18	31,734	0,369005
20 ug/ml	12.147,20	10,06	34.989,59	33,387	0,301315
50 ug/ml	10.146,01	8,40	36.552,01	34,878	0,240839



ELISA

IL-2			
	kontrol	20ug/ml	50ug/ml
	315,2327	402,6666	480,3018
	435,1354	417,1036	490,7962
	425,5107	535,3249	590,232
ort	391,9596	451,6984	520,4434



- **CONCLUSION**

!!!Thank you for your patience!!!

ABDURRAHİM KOÇYİĞİT:
ÖZNUR YAŞAR:



• DON'T WORRY
BE HAPPY !!!

References:

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