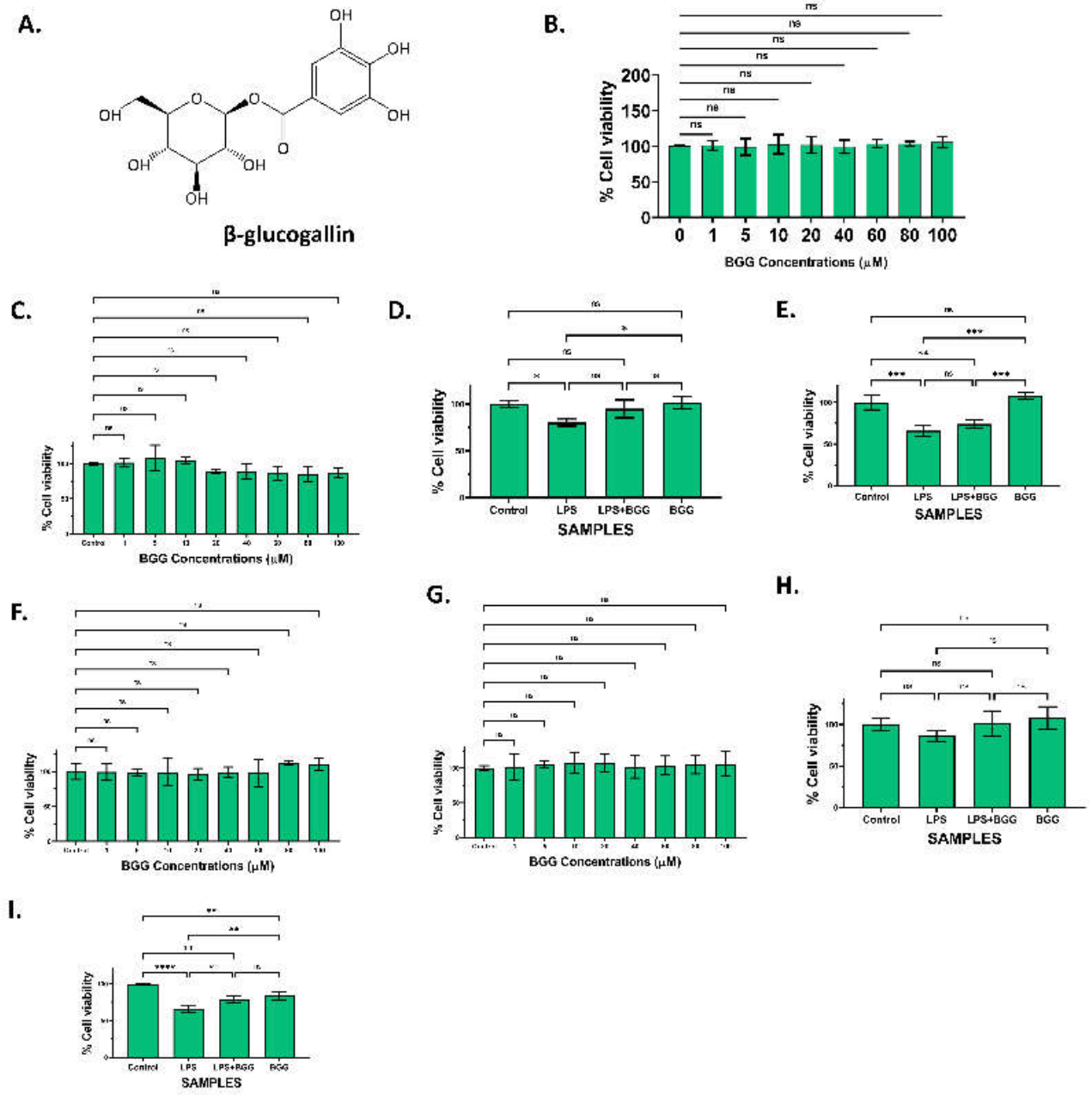
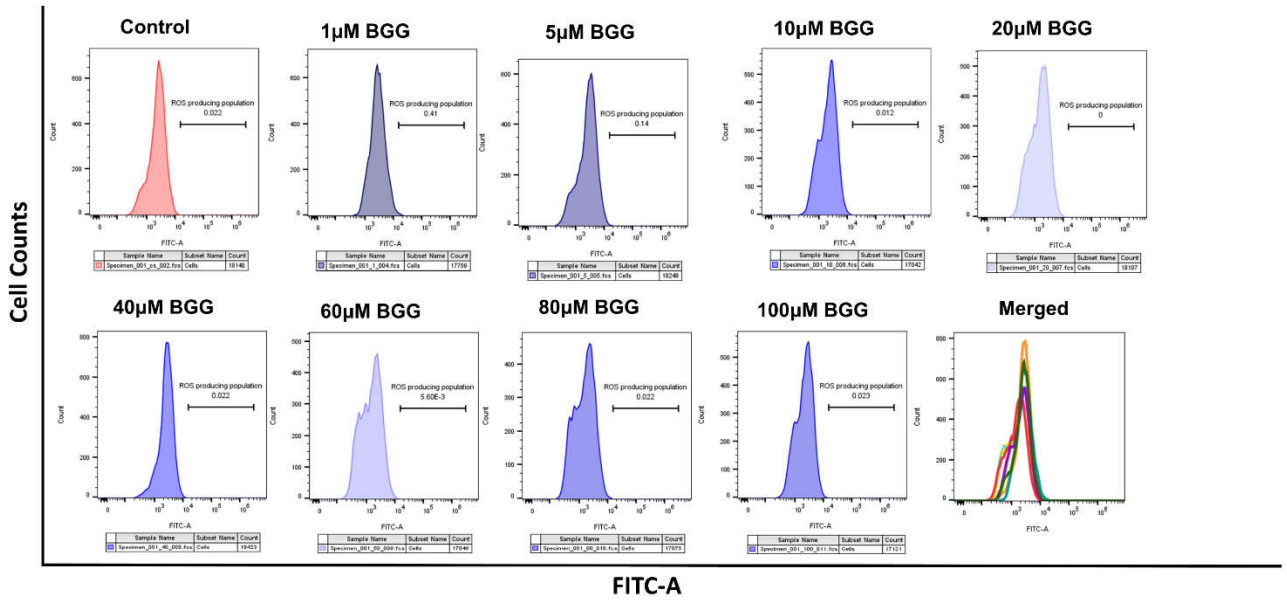


Figure S1. (**A**) Chemical Structure of BGG, Cell viability of various concentrations of BGG on RAW 264.7 and mice peritoneal macrophages measured with MTT, (**B**) 24 h and (**C**) 48 h on RAW 264.7 cells, (**D**) 24 h and (**E**) 48 h on mice peritoneal macropahges. Measurement of BGG (10 μM) on LPS (1μg/mL) induced cell death (**F**) 24 h, (**G**) 48 h on RAW 264.7 cells, (**H**) 24 h and (**I**) 48 h on mice peritoneal macrophages. Results are mentioned as mean ± SD (n = 5), *p*-value ≤0.05. (* $p \leq 0.05$, ** $p < 0.01$, *** $p < 0.001$, and **** $p < 0.0001$).

A.



B.

BGG concentrations (in μM)	Mean fluorescence intensity(MFI)
0 (Control)	2519
1	2516
5	2546
10	2253
20	1623
40	2426
60	1714
80	1720
100	2283

C.

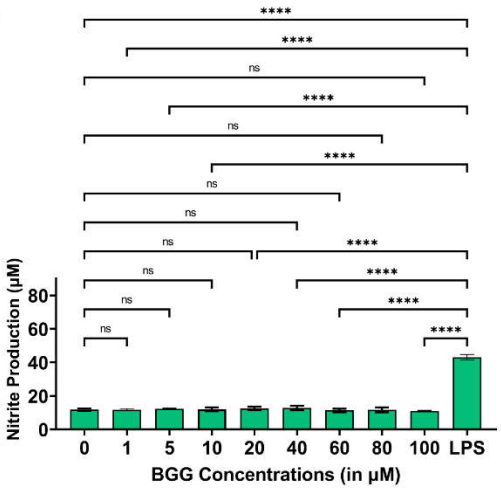
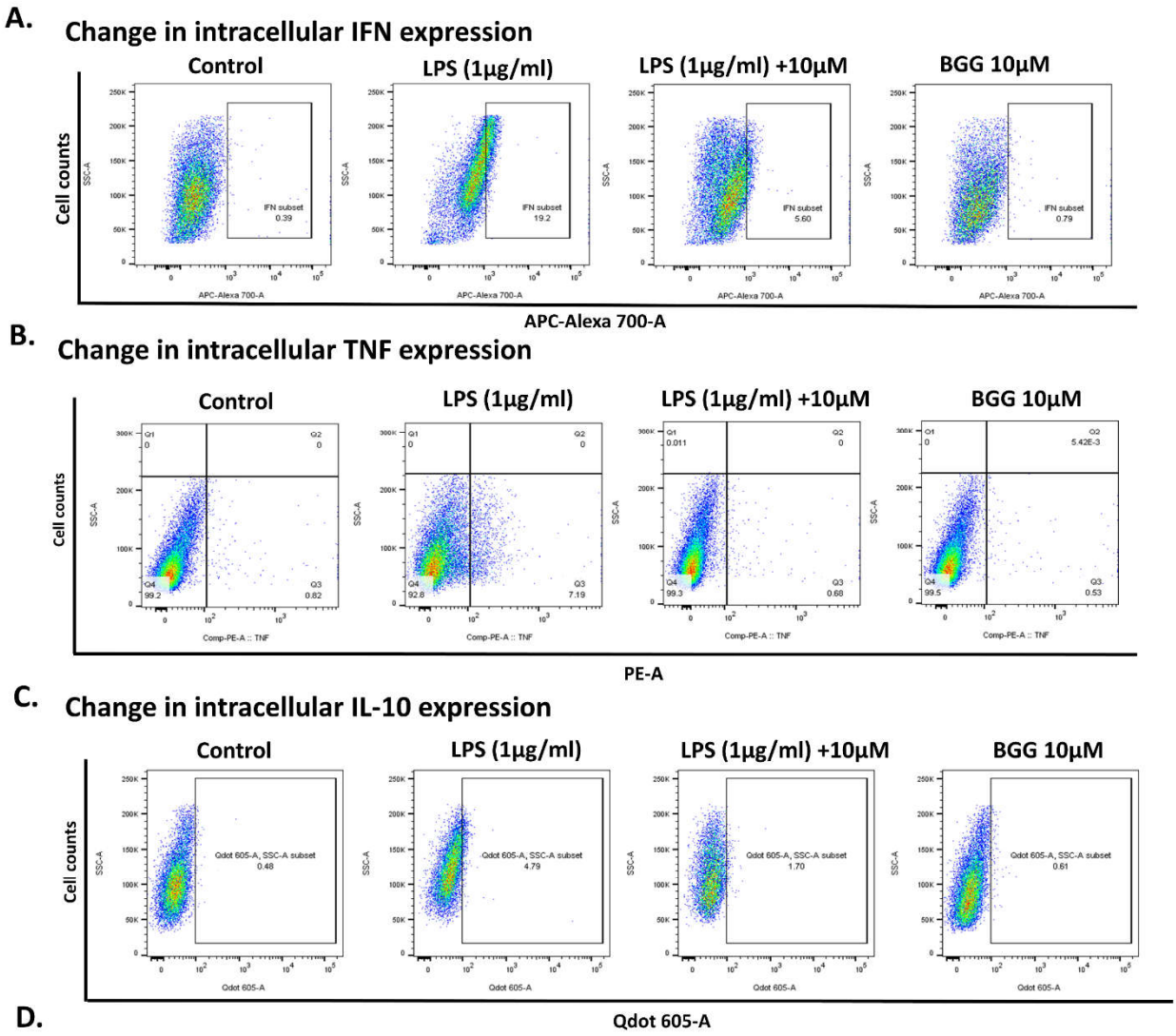


Figure S2. DCFDA-based total reactive oxygen species (ROS) production assay on the various concentration of BGG on RAW264.7 macrophages (**B**) and their respective mean fluorescence intensity (**C**) Extracellularly NO assay of different concentrations of BGG on RAW 264.7 macrophages. Results are mentioned as mean ± SD, (* $p \leq 0.05$, ** $p < 0.001$, *** $p <$ 1e-04, and **** $p <$ 1e-05) (n = 3 independent experiments).



	TNF (%age expression)	IFN (%age expression)	IL10 (%age expression)
Control	0.82	0.29	0.40
LPS	7.19	19.2	4.79
LPS+BGG	0.68	5.60	1.70
BGG	0.53	0.79	0.61

Figure S3. Measuring Intracellular cytokine interleukins by Flow Cytometry (**A**) Change in expression of IFN (**B**) Change in expression of IL-10 (**C**) Change in expression of TNF and (**D**) Table represents the change in expression(%age) of interleukin in percentage.

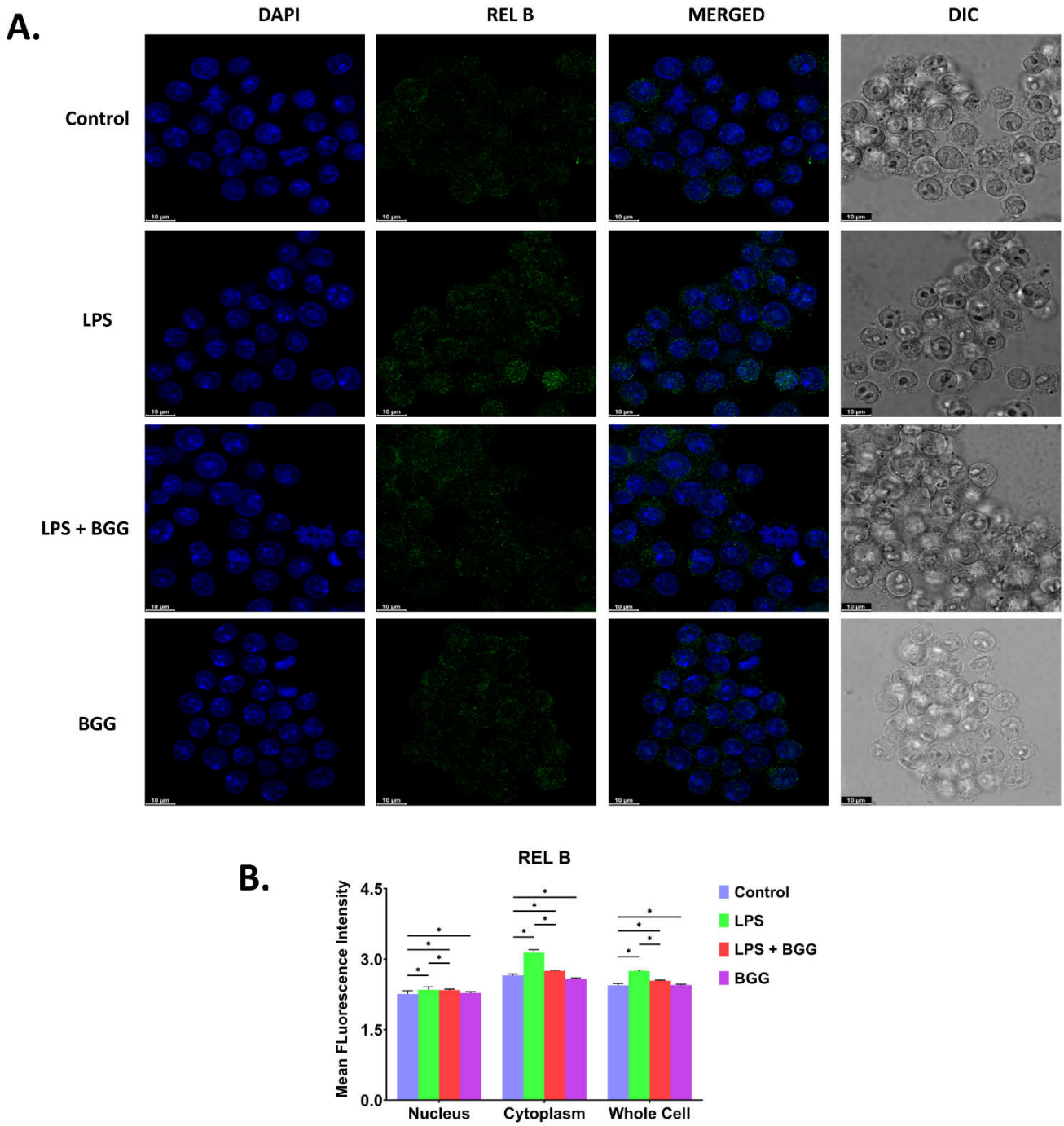
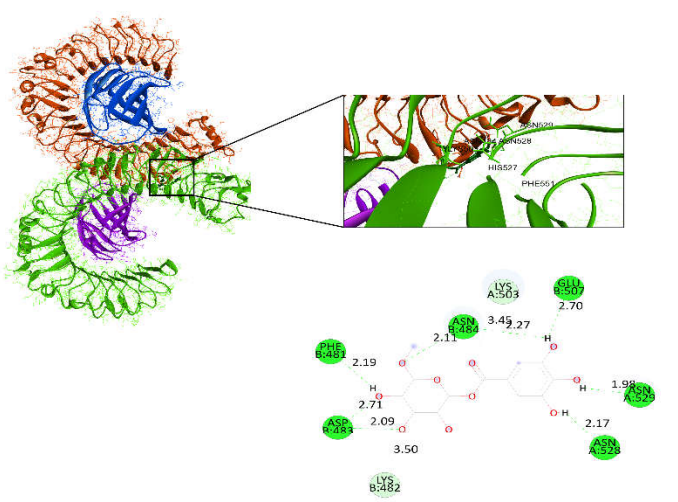


Figure S4. Immunofluorescence staining (**A**) To measure the translocation of RelB from the cytoplasm to the nucleus, and (**B**) Graph represents the mean fluorescence intensity of RelB in the nucleus, cytoplasm, and whole cells, (* $p \leq 0.05$.

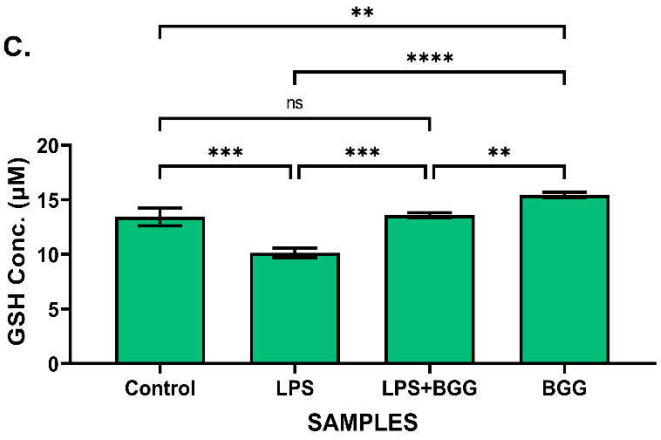
A.



B.

Selected Targets	PDB ID	BINDING ENERGY(kcal/mol)	INTERACTING RESIDUES
TLR4	3VQ2	- 7.0	PHE:481, ASN:484, GLU:507, ASN:529, ASN:528, LYS:503, LYS:482

C.



D.

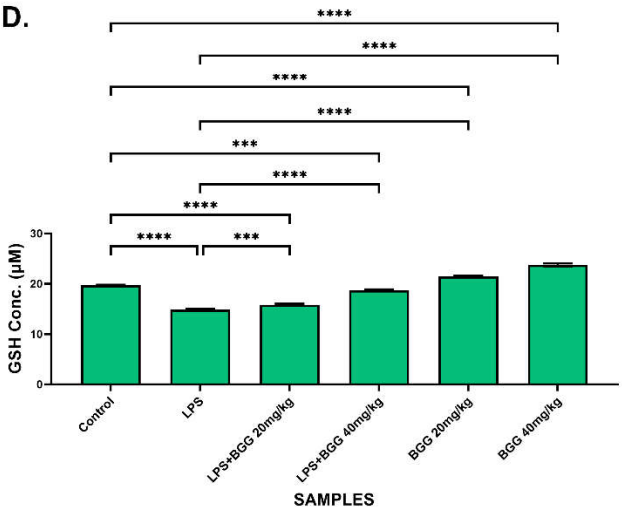


Figure S5. Molecular docking of BGG against (**A**) TLR4, (**B**) Table represents the PDB ID, binding energy, and interacting residues and (**C**) Represents the GSH assay with cell lysate, and (**D**) Represents the GSH assay with treated animal mice serum, (* $p \leq 0.05$, ** $p < 0.001$, *** $p <$ 1e-04, and **** $p <$ 1e-05).