

# Supplementary Tables



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**Supplementary TABLE S1. Summary of some optimal nutritional and environmental parameters controlling total protein (mg/mL) (mean± SD) secretions in the fungal cell-free filtrate produced by *Aspergillus niger* DS22 (ON076463.1)**

Different culture media					
PDB	Basal medium	Modified MYGP	MYGP		
0.1572±0.0006	0.1806±0.0065	<b>0.2680±0.0115</b>	0.2157±0.0101		
Different pH values					
4	5	6	7	8	9
0.1722±0.0011	0.2070±0.0001	<b>0.2744±0.0001</b>	0.2701±0.0001	0.2240±0.0001	0.1629±0.0001
Different incubation temperatures (°C)					
10	20	25	30	35	45
0.1302±0.0001	0.1913±0.0001	0.2277±0.0001	<b>0.3216±0.0010</b>	0.2511±0.0001	0.1933±0.0001
Dynamic and static conditions (rpm)					
0 (static)			200		
0.2040±0.0001			<b>0.2301±0.0001</b>		
Different incubation periods (days)					
1	2	3	4	5	6
0.1298±0.0000	0.2278±0.0001	0.2912±0.0001	<b>0.3383±0.0004</b>	0.2663±0.0004	0.1973±0.0004
Different peptone concentrations (% w/v)					
0.5	1	1.5	2	2.5	3
<b>0.2888±0.0001</b>	0.2468±0.0001	0.2067±0.0001	0.1753±0.0004	0.1543±0.0004	0.1282±0.0004
Different yeast extract concentrations (% w/v)					
0.15	0.25	0.35	0.45	0.55	0.65
<b>0.2932±0.0004</b>	0.2712±0.0004	0.2611±0.0005	0.2474±0.0003	0.2275±0.0002	0.2167±0.0001
Different KNO <sub>3</sub> concentrations (% w/v)					
0.15	0.25	0.35	0.45	0.55	0.65
0.2758±0.0001	<b>0.3132±0.0001</b>	0.2715±0.0001	0.2398±0.0001	0.1977±0.0001	0.1617±0.0001
Different glucose concentrations (% w/v)					
0.5	1	1.5	2	2.5	3
0.1789±0.0001	0.2521±0.0005	0.3185±0.0002	<b>0.3566±0.0002</b>	0.2915±0.0003	0.1933±0.0004

**Supplementary TABLE S2. The nitrate reductase activity of the fungal cell-free filtrate of *Aspergillus niger* DS22 for five days**

Incubation time (day)	Nitrate reductase activity (nM nitrite/ml day) (mean± SD)
0	0.0±0.00001
1	3.2654±0.0001
2	6.7948±0.0002
3	41.5038±0.0001
4	63.1076±0.0003
5	83.9111±0.001

Supplementary TABLE S3. Fractionation pattern of ammonium sulphate precipitate produced by *Aspergillus niger* DS22 (ON076463.1) using sephadex G-75 column chromatography technique

Fraction number	Total protein (mg/mL) (mean± SD)	Nitrate reductase activity (nM nitrite/mL h) (mean± SD)
1	1.3221±0.0001	60.9412±0.004
2	0.1957±0.0001	0.00
3	0.1813±0.0003	0.00
4	0.1950±0.002	0.00
5	0.1907±0.0001	0.00
6	0.2191±0.0001	2.0316±0.0001
7	0.1980±0.001	0.00
8	0.2120±0.0003	0.1234±0.002
9	0.1766±0.0001	0.00
10	0.1663±0.0001	0.00

Supplementary TABLE S4. Anti-inflammatory activity of Titanium dioxide nanoparticles biosynthesized by *Aspergillus niger* DS22 (On076463.1) and drug standard (Indomethacin)

Sample	conc. (µg/mL)	Hypotonic Ab. Mean	Sample with Isotonic solution Ab	Hemolysis inhibition%	Standard deviation (SD)	Standard error (SE)
Control	0.00	1.353	0	0	0.006	0.002
	<b>1000</b>	<b>0.046</b>	<b>0.015</b>	<b>97.7</b>	<b>0.002</b>	<b>0</b>
Titanium dioxide nanoparticles	800	0.074	0.009	95.2	0.055	0.018
	600	0.176	0.007	87.4	0.003	0.001
	400	0.222	0.005	83.9	0.006	0.002
	200	0.329	0.005	75.9	0.005	0.002
	100	0.421	0.003	69.0	0.001	0.001
	<b>1000</b>	<b>0.027</b>	<b>0.003 ±0.008</b>	<b>98.6</b>	<b>0.004</b>	<b>0.001</b>
	800	0.056	0.005±0.003	96.2	0.004	0.001
standard Indomethacin	600	0.076	0.002±0.003	94.6	0.004	0.001
	400	0.092	0.006± 0.003	93.4	0.003	0.001
	200	0.103	0.002± 0.001	92.5	0.005	0.002
	100	0.114	0.001± 0.001	91.6	0.003	0.001