

Supplementary Table (1): A 24-hour growth inhibition comparison of linagliptin, ciprofloxacin, and a combination.

Concentration (µg/ml)	Growth inhibition (mean ± SE ^a)			^b LSD value
	linagliptin	ciprofloxacin	mix	
0.1	D 4.00±3.000 a	C 0.00±.000 a	D 7.00±2.000 a	N.S
1	CD 6.00±1.000 b	BC 2.00±1.000 b	C 19.00±2.000 a	5.66
10	C 14.00±2.000 b	B 8.00±2.000 b	C 21.00±1.000 a	6.92
100	B 24.00±4.000 a	A 29.00±3.000 a	B 34.00±4.000 a	N.S
1000	A 32.00±2.000 b	A 37.00±2.000 b	A 47.00±3.000 a	9.52
^b LSD value	9.48	6.9	9.48	-
IC 50	1767.4 µg/ml	1370.4 µg/ml	1060.4 µg/ml	-

a: standard error, b: least significant difference. Capital letters within the same column indicate statistically significant differences, while variations in lowercase letters within the same rows also signify statistically significant differences.: significant at (P<0.05)

Supplementary Table (2): A 72-hour growth inhibition comparison of linagliptin, ciprofloxacin, and a combination.

Concentration (µg/ml)	Growth inhibition (mean ± SE ^a)			^b LSD value
	linagliptin	ciprofloxacin	mix	
0.1	C 16.00±4.000 a	D 4.00±2.000 a	D 14.00±4.000 a	N.S
1	B 27.00±3.000 a	D 11.00±3.000 b	CD 23.00±3.000 a	11.98
10	B 31.00±1.000 a	C 31.00±1.000 a	C 29.00±4.000 a	N.S
100	AB 36.00±2.000 a	B 43.00±3.000 a	B 44.00±4.000 a	N.S
1000	A 43.00±3.000 b	A 56.00±1.000 b	A 62.00±2.000 a	8.64
^b LSD value	10.16	7.98	12.7	-
IC 50	1362.7 µg/ml	786.8 µg/ml	640.6 µg/ml	-

a: standard error, b: least significant difference. Capital letters within the same column indicate statistically significant differences, while variations in lowercase letters within the same rows also signify statistically significant differences.: significant at (P<0.05)

Supplementary Table (3): combination index and dose reduction index value for the cytotoxicity of linagliptin-ciprofloxacin mixture at 24 hrs. incubation periods

concentration µg/ml		Con. ratio	CI value	Combination behaviour	DRI value	
linagliptin	ciprofloxacin				linagliptin	ciprofloxacin
0.05 µg/ml	0.05 µg/ml	1:1	0.05514	Very Strong Synergism	19.1828	332.216
0.5 µg/ml	0.5 µg/ml		0.01471	Very Strong Synergism	111.150	175.116
5 µg/ml	5 µg/ml		0.10511	Strong Synergism	17.3747	21.0266
50 µg/ml	50 µg/ml		0.23492	Strong Synergism	18.4550	5.53313
500 µg/ml	500 µg/ml		0.89461	Slight Synergism	12.8394	1.22441

The CI (Combination Index) and DRI (Dose Reduction Index) Values were evaluated utilizing Compusyn software. A CI number exceeding 1 indicates antagonism, a CI value of 1 denotes an additive effect, and a CI value below 1 suggests synergism. A dose reduction index (DRI) exceeding one correlates with reduced toxicity. (Chou, 2006, Chou, [51])

Supplementary Table (4): combination index and dose reduction index value for the cytotoxicity of linagliptin-ciprofloxacin mixture at 72 hrs. incubation periods

concentration µg/ml		Con. ratio	CI value	Combination behaviour	DRI value	
linagliptin	ciprofloxacin				linagliptin	ciprofloxacin
0.05 µg/ml	0.05 µg/ml	1:1	0.07123	Very Strong Synergism	21.2989	41.1947
0.5 µg/ml	0.5 µg/ml		0.08750	Very Strong Synergism	25.4592	20.7381
5 µg/ml	5 µg/ml		0.31889	Synergism	9.14836	4.77140
50 µg/ml	50 µg/ml		0.44250	Moderate Synergism	13.2647	2.72399
500 µg/ml	500 µg/ml		0.56258	Moderate Synergism	26.2924	1.90642

The CI (Combination Index) and DRI (Dose Reduction Index) Values were evaluated using Compusyn software. A CI number exceeding 1 indicates antagonism, a CI value of 1 denotes an additive effect, and a CI value below 1 suggests synergism. A dose reduction index (DRI) exceeding one correlates with reduced toxicity. (Chou, 2006, Chou, [51]).