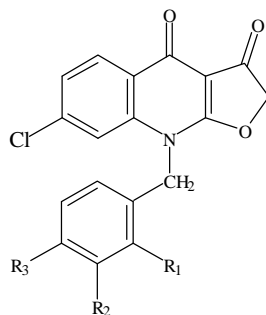


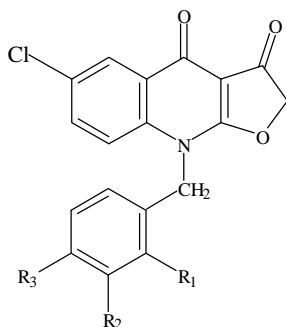
Table 34 The inhibitory effects of compounds **83-97** on neutrophil degranulation
 Animal: Rat (*in vitro*) Inducer: fMLP 10 μ g/ml cytochalasin B



| No. | R1 | R2 | R3 | Conc. (μ M) | Percent Release | | | |
|------------------|-----------------|------------------|------------------|------------------|------------------------|----------------|------------------|----------------|
| | | | | | β -Glucuronidase | (%inh.) | Histamine | (%inh.) |
| control | | | | | 38.1 \pm 1.7 | | 59.9 \pm 0.2 | |
| 83 | H | H | H | 10 | 17.7 \pm 1.3 | 15.7 \pm 3.6 | 42.9 \pm 6.1 | 17.9 \pm 3.1 |
| | | | | 30 | 16.4 \pm 1.7 | 22.1 \pm 4.8 | 37.1 \pm 5.4 | 29.1 \pm 3.8 |
| 84 | CH ₃ | H | H | 10 | 18.2 \pm 1.0 | 13.1 \pm 1.4 | 45.8 \pm 5.3 | 12.1 \pm 2.9 |
| | | | | 30 | 14.8 \pm 1.3 * | 29.5 \pm 3.5 | 36.4 \pm 3.4 | 29.9 \pm 1.7 |
| 85 | H | CH ₃ | H | 10 | 17.6 \pm 1.1 | 16.0 \pm 4.8 | 40.7 \pm 6.6 | 22.5 \pm 5.2 |
| | | | | 30 | 13.1 \pm 1.5 ** | 37.5 \pm 6.1 | 34.2 \pm 7.4 | 35.2 \pm 8.3 |
| 86 | H | H | CH ₃ | 10 | 17.4 \pm 1.0 | 16.9 \pm 2.5 | 44.2 \pm 6.0 | 15.5 \pm 3.4 |
| | | | | 30 | 14.3 \pm 2.0 * | 32.1 \pm 7.1 | 35.9 \pm 4.2 | 31.0 \pm 2.9 |
| 87 | H | OCH ₃ | H | 10 | 17.8 \pm 0.9 | 15.2 \pm 2.6 | 43.9 \pm 5.8 | 16.1 \pm 2.4 |
| | | | | 30 | 14.4 \pm 0.9 * | 31.3 \pm 1.3 | 36.6 \pm 5.3 | 30.2 \pm 2.9 |
| 88 | H | H | OCH ₃ | 10 | 16.9 \pm 1.2 | 19.5 \pm 3.0 | 40.9 \pm 4.7 | 21.2 \pm 5.0 |
| | | | | 30 | 16.2 \pm 1.4 | 23.1 \pm 3.8 | 39.5 \pm 5.2 | 24.3 \pm 4.5 |
| 89 | F | H | H | 10 | 20.3 \pm 1.1 | 3.2 \pm 4.9 | 49.5 \pm 4.1 | 4.4 \pm 3.5 |
| | | | | 30 | 15.7 \pm 1.3 | 25.5 \pm 3.1 | 39.5 \pm 5.1 | 24.4 \pm 2.6 |
| 90 | H | F | H | 10 | 18.9 \pm 0.8 | 9.8 \pm 1.5 | 48.4 \pm 7.5 | 7.7 \pm 5.9 |
| | | | | 30 | 15.6 \pm 1.0 | 25.5 \pm 2.8 | 42.4 \pm 7.6 | 19.8 \pm 6.0 |
| 91 | H | H | F | 10 | 18.9 \pm 2.1 | 10.1 \pm 6.5 | 51.3 \pm 3.9 | 0.3 \pm 7.9 |
| | | | | 30 | 18.2 \pm 1.1 | 13.3 \pm 2.5 | 49.1 \pm 6.3 | 5.9 \pm 3.6 |
| 92 | Cl | H | H | 10 | 19.8 \pm 1.8 | 5.9 \pm 5.5 | 50.5 \pm 5.0 | 2.9 \pm 1.1 |
| | | | | 30 | 18.5 \pm 0.8 | 11.9 \pm 1.7 | 49.5 \pm 5.7 | 5.0 \pm 1.1 |
| 93 | H | Cl | H | 10 | 17.0 \pm 0.6 | 18.9 \pm 0.9 | 46.7 \pm 7.0 | 10.6 \pm 6.9 |
| | | | | 30 | 12.3 \pm 0.7 ** | 41.1 \pm 3.1 | 39.0 \pm 7.4 | 26.1 \pm 6.4 |
| 94 | H | H | Cl | 10 | 15.5 \pm 0.6 * | 26.1 \pm 0.6 | 44.2 \pm 4.1 | 14.7 \pm 3.7 |
| | | | | 30 | 10.1 \pm 0.8 ** | 51.7 \pm 2.5 | 35.3 \pm 5.3 | 32.5 \pm 5.1 |
| control | | | | | 34.8 \pm 2.6 | | 64.8 \pm 2.8 | |
| 95 | NO ₂ | H | H | 10 | 19.5 \pm 0.7 | 6.7 \pm 0.9 | 54.3 \pm 3.9 | -5.0 \pm 4.1 |
| | | | | 30 | 21.3 \pm 1.0 | -1.6 \pm 1.3 | 55.3 \pm 3.7 | -7.1 \pm 4.1 |
| 96 | H | NO ₂ | H | 10 | 17.2 \pm 0.9 | 17.8 \pm 2.7 | 48.9 \pm 2.6 | 9.9 \pm 6.0 |
| | | | | 30 | 17.5 \pm 1.1 | 16.2 \pm 5.8 | 47.2 \pm 6.5 | 4.9 \pm 3.9 |
| 97 | H | H | NO ₂ | 10 | 16.6 \pm 1.2 | 20.8 \pm 3.2 | 45.0 \pm 3.7 | 12.1 \pm 9.5 |
| | | | | 30 | 12.7 \pm 1.0 ** | 39.6 \pm 2.6 | 30.9 \pm 3.7 * | 40.7 \pm 1.2 |
| Mepacirne | | | | 10 | 17.4 \pm 0.8 | 16.8 \pm 2.2 | 47.4 \pm 5.3 | 8.9 \pm 1.9 |
| | | | | 30 | 11.4 \pm 1.6 | 44.9 \pm 8.6 | 37.7 \pm 6.8 | 28.0 \pm 6.1 |
| | | | | 100 | 2.4 \pm 0.7 | 88.7 \pm 2.7 | 1.7 \pm 2.2 ** | 96.9 \pm 4.1 |
| IC ₅₀ | | | | | 42.0 \pm 3.5 | | 50.2 \pm 4.5 | |

N=3 ; * P<0.05 , ** P<0.01 ; Mepacirne : postive control.

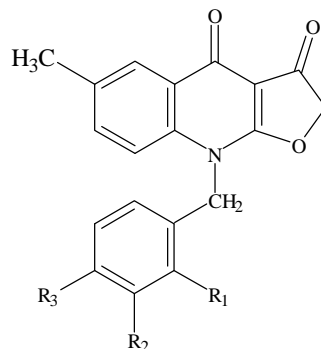
Table 36 The inhibitory effects of compounds **139-153** on neutrophil degranulation
 Animal: Rat (*in vitro*) Inducer: fMLP 10 μ g/ml cytochalasin B



| No. | R1 | R2 | R3 | (μ M) | Percent Release | | | |
|------------------|-----------------|------------------|------------------|------------|------------------------|-----------------|------------------|------------------|
| | | | | | β -Glucuronidase | (% inh.) | Histamine | (% inh.) |
| control | | | | | 46.5 \pm 2.6 | | 68.5 \pm 1.2 | |
| 139 | H | H | H | 10 | 21.3 \pm 2.2 | 14.1 \pm 1.3 | 38.2 \pm 3.0 | 12.0 \pm 6.3 |
| | | | | 30 | 22.7 \pm 1.8 | 8.0 \pm 1.3 | 41.2 \pm 4.2 | 5.4 \pm 7.7 |
| 140 | CH ₃ | H | H | 10 | 19.3 \pm 2.0 | 21.9 \pm 1.4 | 32.1 \pm 3.0 * | 26.2 \pm 6.3 |
| | | | | 30 | 20.0 \pm 2.4 | 19.2 \pm 3.3 | 36.1 \pm 0.7 | 16.9 \pm 1.1 |
| 141 | H | CH ₃ | H | 10 | 21.5 \pm 2.2 | 13.2 \pm 1.6 | 38.5 \pm 2.8 | 11.6 \pm 4.3 |
| | | | | 30 | 22.9 \pm 2.4 | 7.4 \pm 1.8 | 41.3 \pm 2.8 | 4.8 \pm 6.4 |
| 142 | H | H | CH ₃ | 10 | 22.7 \pm 3.1 | 8.7 \pm 4.6 | 43.7 \pm 2.3 | -0.7 \pm 3.3 |
| | | | | 30 | 27.4 \pm 3.2 | -10.2 \pm 3.8 | 48.5 \pm 2.3 | -11.7 \pm 3.2 |
| 143 | H | OCH ₃ | H | 10 | 20.2 \pm 2.7 | 19.1 \pm 3.7 | 37.5 \pm 0.8 | 13.6 \pm 1.1 |
| | | | | 30 | 20.2 \pm 1.9 | 18.2 \pm 2.5 | 38.4 \pm 0.6 | 11.4 \pm 1.0 |
| 144 | H | H | OCH ₃ | 10 | 19.5 \pm 3.1 | 22.1 \pm 5.6 | 35.2 \pm 2.6 | 19.1 \pm 3.8 |
| | | | | 30 | 16.2 \pm 2.6 ** | 35.2 \pm 4.6 | 34.5 \pm 2.5 | 20.7 \pm 4.4 |
| 145 | F | H | H | 10 | 21.9 \pm 1.7 | 11.0 \pm 1.7 | 45.1 \pm 1.8 | -4.0 \pm 3.7 |
| | | | | 30 | 25.7 \pm 2.9 | 0.3 \pm 1.2 | 55.9 \pm 5.7 | -28.5 \pm 12.6 |
| 146 | H | F | H | 10 | 22.7 \pm 2.9 | 8.9 \pm 3.4 | 41.6 \pm 2.2 | 4.2 \pm 2.8 |
| | | | | 30 | 23.3 \pm 2.5 | 5.9 \pm 1.8 | 46.0 \pm 1.8 | -6.0 \pm 1.8 |
| 147 | H | H | F | 10 | 23.9 \pm 3.0 | 3.5 \pm 5.2 | 47.4 \pm 1.3 | -9.3 \pm 2.9 |
| | | | | 30 | 24.6 \pm 2.6 | 0.7 \pm 2.3 | 54.0 \pm 1.7 | -24.4 \pm 3.0 |
| 148 | Cl | H | H | 10 | 21.5 \pm 1.9 | 12.8 \pm 0.5 | 46.9 \pm 4.4 | -7.9 \pm 8.3 |
| | | | | 30 | 21.4 \pm 2.7 | 14.0 \pm 3.6 | 46.4 \pm 3.0 | -6.7 \pm 4.4 |
| 149 | H | Cl | H | 10 | 25.3 \pm 3.2 | -1.7 \pm 3.8 | 55.3 \pm 3.3 | -27.2 \pm 5.4 |
| | | | | 30 | 22.7 \pm 2.5 | 8.4 \pm 2.1 | 53.6 \pm 2.1 | -23.7 \pm 4.3 |
| 150 | H | H | Cl | 10 | 24.6 \pm 3.2 | 1.0 \pm 5.8 | 55.2 \pm 3.3 | -27.2 \pm 6.7 |
| | | | | 30 | 28.7 \pm 1.8 | -16.5 \pm 4.3 | 70.9 \pm 5.7 * | -63.7 \pm 13.7 |
| 151 | NO ₂ | H | H | 10 | 21.7 \pm 2.7 | 12.8 \pm 3.7 | 42.7 \pm 4.2 | 1.9 \pm 7.5 |
| | | | | 30 | 22.1 \pm 2.7 | 11.1 \pm 4.3 | 44.5 \pm 3.5 | -2.4 \pm 6.8 |
| 152 | H | NO ₂ | H | 10 | 20.8 \pm 2.9 | 16.5 \pm 5.6 | 44.1 \pm 3.1 | -1.4 \pm 5.3 |
| | | | | 30 | 22.4 \pm 2.5 | 9.9 \pm 2.0 | 42.2 \pm 2.9 | 3.1 \pm 4.6 |
| 153 | H | H | NO ₂ | 10 | 21.3 \pm 2.9 | 14.4 \pm 3.9 | 44.1 \pm 2.5 | -1.3 \pm 3.8 |
| | | | | 30 | 24.5 \pm 2.7 | 1.3 \pm 2.5 | 54.1 \pm 1.7 | -24.8 \pm 6.7 |
| Mepacirne | | | | 10 | 20.5 \pm 0.8 | 16.8 \pm 2.2 | 39.5 \pm 5.3 | 8.9 \pm 1.9 |
| | | | | 30 | 13.3 \pm 1.6 ** | 44.9 \pm 8.6 | 31.4 \pm 6.8 * | 28.0 \pm 6.1 |
| | | | | 100 | 2.8 \pm 0.7 ** | 88.7 \pm 2.7 | 1.4 \pm 2.2 ** | 96.9 \pm 4.1 |
| IC ₅₀ | | | | | 14.2 \pm 0.7 | | 16.0 \pm 0.9 | |

N=3 ; * P<0.05 , ** P<0.01 ; Mepacirne : positive control.

Table 35 The inhibitory effects of compounds **109-123** on neutrophil degranulation
 Animal: Rat (*in vitro*) Inducer: fMLP 10 μ g/ml cytochalasin B



| No. | R1 | R2 | R3 | (μ M) | Percent Release | | | |
|------------------|-----------------|------------------|------------------|------------|------------------------|----------------|-------------------|-----------------|
| | | | | | β -Glucuronidase | (%inh.) | Histamine | (%inh.) |
| Control | | | | | 36.5 \pm 1.4 | | 69.5 \pm 0.7 | |
| 109 | H | H | H | 10 | 28.8 \pm 0.6 | 6.1 \pm 2.7 | 57.6 \pm 3.0 | 8.2 \pm 3.5 |
| | | | | 30 | 27.4 \pm 1.1 * | 10.7 \pm 4.6 | 50.4 \pm 5.2 ** | 19.8 \pm 7.2 |
| 110 | CH ₃ | H | H | 10 | 21.8 \pm 1.1 ** | 29.0 \pm 4.1 | 55.7 \pm 3.1 | 11.2 \pm 3.7 |
| | | | | 30 | 20.2 \pm 0.2 ** | 34.3 \pm 1.3 | 44.8 \pm 2.6 ** | 28.6 \pm 3.2 |
| 111 | H | CH ₃ | H | 10 | 29.0 \pm 0.7 | 5.5 \pm 3.3 | 57.4 \pm 2.6 | 8.4 \pm 3.0 |
| | | | | 30 | 26.1 \pm 1.4 ** | 14.9 \pm 5.2 | 53.7 \pm 3.4 * | 14.4 \pm 4.1 |
| 112 | H | H | CH ₃ | 10 | 28.7 \pm 1.9 | 6.6 \pm 5.4 | 62.7 \pm 2.0 | -0.0 \pm 1.8 |
| | | | | 30 | 27.5 \pm 1.0 * | 10.4 \pm 4.4 | 58.8 \pm 1.8 | 6.2 \pm 1.5 |
| 113 | H | OCH ₃ | H | 10 | 27.7 \pm 0.3 * | 9.9 \pm 1.0 | 57.3 \pm 2.5 | 8.6 \pm 3.2 |
| | | | | 30 | 24.7 \pm 1.7 ** | 19.8 \pm 4.6 | 55.6 \pm 1.5 | 11.3 \pm 1.1 |
| 114 | H | H | OCH ₃ | 10 | 28.6 \pm 1.4 | 6.7 \pm 5.6 | 57.8 \pm 2.9 | 7.9 \pm 3.5 |
| | | | | 30 | 27.5 \pm 0.9 * | 10.4 \pm 3.9 | 54.7 \pm 1.6 * | 12.6 \pm 2.1 |
| 115 | F | H | H | 10 | 25.5 \pm 0.9 | 17.1 \pm 2.1 | 58.1 \pm 0.9 | 7.3 \pm 2.0 |
| | | | | 30 | 23.3 \pm 0.5 ** | 24.1 \pm 2.4 | 56.3 \pm 3.3 | 10.2 \pm 4.7 |
| 116 | H | F | H | 10 | 26.1 \pm 0.9 ** | 14.9 \pm 2.5 | 59.7 \pm 2.0 | 4.8 \pm 2.4 |
| | | | | 30 | 25.9 \pm 1.0 ** | 15.6 \pm 4.4 | 57.7 \pm 2.3 | 8.0 \pm 2.7 |
| 117 | H | H | F | 10 | 25.7 \pm 1.5 ** | 16.5 \pm 4.2 | 59.8 \pm 0.7 | 4.6 \pm 0.7 |
| | | | | 30 | 24.8 \pm 0.2 ** | 19.3 \pm 0.6 | 56.3 \pm 2.4 | 10.2 \pm 2.4 |
| 118 | Cl | H | H | 10 | 23.9 \pm 1.1 ** | 22.1 \pm 2.8 | 58.9 \pm 1.1 | 6.1 \pm 0.9 |
| | | | | 30 | 19.0 \pm 0.8 ** | 38.0 \pm 2.9 | 47.6 \pm 4.4 ** | 24.2 \pm 5.9 |
| 119 | H | Cl | H | 10 | 24.8 \pm 0.3 ** | 18.9 \pm 2.0 | 56.3 \pm 2.0 | 10.2 \pm 1.8 |
| | | | | 30 | 21.2 \pm 1.2 ** | 31.1 \pm 3.4 | 53.6 \pm 2.2 * | 14.6 \pm 2.3 |
| 120 | H | H | Cl | 10 | 26.5 \pm 0.1 ** | 13.6 \pm 1.0 | 59.5 \pm 1.0 | 5.1 \pm 0.4 |
| | | | | 30 | 24.0 \pm 0.5 ** | 21.8 \pm 2.0 | 57.6 \pm 1.9 | 8.1 \pm 1.7 |
| 121 | NO ₂ | H | H | 10 | 25.2 \pm 0.5 ** | 17.8 \pm 2.2 | 60.3 \pm 1.3 | 3.7 \pm 2.1 |
| | | | | 30 | 23.6 \pm 0.7 ** | 23.3 \pm 2.5 | 55.2 \pm 1.1 | 11.9 \pm 0.7 |
| 122 | H | NO ₂ | H | 10 | 24.9 \pm 1.0 ** | 18.8 \pm 4.0 | 59.2 \pm 2.4 | 5.6 \pm 2.4 |
| | | | | 30 | 22.5 \pm 1.1 ** | 26.6 \pm 4.3 | 55.2 \pm 3.1 | 12.0 \pm 3.7 |
| 123 | H | H | NO ₂ | 10 | 25.9 \pm 1.2 ** | 15.8 \pm 3.3 | 56.2 \pm 2.3 | 10.3 \pm 3.3 |
| | | | | 30 | 25.9 \pm 0.6 ** | 15.6 \pm 1.8 | 55.5 \pm 2.2 | 11.5 \pm 3.0 |
| Mepacirne | | | | 10 | 31.3 \pm 0.3 | -1.0 \pm 2.1 | 63.9 \pm 5.8 | 2.6 \pm 2.1 |
| | | | | 30 | 23.7 \pm 1.4 ** | 23.2 \pm 6.5 | 54.4 \pm 9.7 | 18.1 \pm 10.0 |
| | | | | 100 | 5.5 \pm 0.7 ** | 82.0 \pm 2.6 | 2.0 \pm 1.3 ** | 97.2 \pm 1.9 |
| IC ₅₀ | | | | | 42.0 \pm 3.5 | | 50.2 \pm 4.5 | |

N=3 ; * P<0.05 , ** P<0.01 ; Mepacirne : postive control.