# Pancreatic Phospholipase $A_2$ – Mediated Enhancement of the Respiratory Burst Response of Human Neutrophils

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The aim of this study was to investigate the effects of exogenously added pancreatic phospholipase $A_2$ ($pPLA_2$) on the production of reactive oxygen species by human polymorphonuclear leukocytes (PMNs). Pancreatic $PLA_2$ was used because PMNs do not possess a receptor for that enzyme and, therefore, the receptor-mediated effects could be excluded. Respiratory burst activity of PMNs was monitored by luminol-amplified chemiluminescence and the lipid composition of neutrophils after treatment with $pPLA_2$ was determined by matrix-assisted laser desorption/ionisation time-of-flight mass spectrometry. Our results show that the products of the $pPLA_2$ digestion of the PMN membrane – lysophospholipids and the corresponding free fatty acids – significantly enhanced the respiratory burst response of human neutrophils.