Supplemental Information for

Social networking of human neutrophils within the immune system
Patrizia Scapini & Marco A. Cassatella

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- REFERENCES to Table 2.
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REFERENCES to Table 1 (Crosstalk between human neutrophils and innate immune cells)


REFERENCES to Table 2 (Crosstalk between human neutrophils and adaptive immune cells)


Supplemental Table 1. Crosstalk between mouse neutrophils and innate immune cells

<table>
<thead>
<tr>
<th>neutrophil crosstalk with:</th>
<th>crosstalk outcome</th>
<th>references</th>
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<tr>
<td>Dendritic cells (DCs): conventional DCs (cDCs)</td>
<td>enhancement, by microbial antigen-stimulated neutrophils, of cDC recruitment, activation and ability to simulate Th1 cell differentiation, via cytokine production or cell-contact dependent mechanisms</td>
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<td></td>
<td>enhancement of cDC ability to present antigens by Mycobacteria-infected neutrophils</td>
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<td>inhibition of cDC-mediated antigen presentation by neutrophils in models of immunization with T-cell-dependent antigens</td>
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<td>cDC internalization and cross-presentation of antigens previously processed by neutrophils</td>
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<td>enhancement of cDC activation by <em>Aspergillus fumigatus</em>-activated neutrophils via DC-SIGN-dependent mechanisms</td>
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<td>enhancement of cDC-mediated immunostimulatory functions by NETs containing myeloperoxidase (MPO), elastase, and proteinase 3 (PR3)</td>
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<td>modulation of reciprocal neutrophil and DC recruitment, under inflammatory conditions</td>
<td>reviewed in ref.10-11</td>
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<td>inhibition of cDC activation and cDC-mediated T cell activation by apoptotic neutrophils infected with <em>Leishmania major</em> or Mycobacteria</td>
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<td>enhancement of neutrophil recruitment and neutrophil-derived IL-10 by Mycobacteria-infected cDCs, with consequent neutrophil-mediated inhibition of Th17 cell activation</td>
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<td>inhibition of cDC maturation and cytokine production by neutrophil-derived MPO</td>
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<td><strong>plasmacytoid DCs (pDCs)</strong></td>
<td>modulation of neutrophil trafficking from the bone marrow into the circulation by cDCs</td>
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<td>enhancement of pDC-derived IFNα by NETs containing the antimicrobial peptide (CRAMP) complexed with self DNA and DNA-specific IgG produced by CD5^+^ B1a cells.</td>
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<td><strong>Macrophages</strong></td>
<td>enhancement of macrophage-mediated microbicidal activities and macrophage-derived cytokines by neutrophil granule proteins</td>
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<td>inhibition of proinflammatory cytokine production by macrophages engulfing apoptotic neutrophils</td>
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<td>enhancement of macrophage antimicrobial activities by the uptake of antimicrobial peptides from ingested apoptotic and non-apoptotic neutrophils</td>
<td>reviewed in ref.20</td>
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<td><strong>natural killer (NK) cells</strong></td>
<td>enhancement, by neutrophil-derived IL-18 in combination with DC-derived IL-12, of IFNγ production by NK cells in mice infected with <em>Legionella pneumophila</em></td>
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<td>neutrophils and NK cells modulate each other functions in different mouse models of infections and inflammation</td>
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<td>impairment of NK cell maturation and functions in neutropenic mice</td>
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<td>inhibition of neutrophil pro-inflammatory functions by NK cells, <em>via</em> contact-dependent mechanisms involving NK cell-inhibitory receptor NKG2A</td>
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<td>enhancement of neutrophil fungicidal activity by NK cell-derived GM-CSF</td>
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<td><strong>mast cells</strong></td>
<td>enhancement of neutrophil effector functions <em>via</em> mast cell-derived TNFα and GM-CSF</td>
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Supplemental Table 2. Crosstalk between mouse neutrophils and adaptive immune cells

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<tr>
<td><strong>T cells:</strong> CD4⁺ and/or CD8⁺ T cells</td>
<td>modulation of T helper type 1 (Th1) cell differentiation by neutrophils in experimental models of infections</td>
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<td>enhancement of Th2 polarization by neutrophils in BALB/c mice infected with Leishmania major</td>
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<td>enhancement of CD8⁺ T-cell responses, as well as antigen cross-presentation, <em>in vitro</em> and <em>in vivo</em>, by neutrophils</td>
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<td>enhancement of CD4⁺ T cell activation and Th1/Th17 polarization by neutrophils expressing MHC class II, CD80 and CD86</td>
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<td>inhibition of T cell responses and T cell colonization to distal lymph nodes by neutrophils, in models of immunization with T-cell-dependent antigens</td>
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<td></td>
<td>enhancement of CD8⁺ T cell-mediated anti-viral responses by neutrophils</td>
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<td>enhancement of CD8⁺ T cell recruitment into the skin and CD8⁺ T cell-mediated immune responses by neutrophil-derived Fas ligand and perforin</td>
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<td>enhancement of T cell proliferation and T cell-derived cytokines by neutrophils acquiring antigen-presenting functions in mice with chronic colitis</td>
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<td>inhibition of myeloid-derived suppressor cell (MDSC)-mediated suppressive functions by a neutrophil cell population constitutively producing IFN-γ in mice with chronic inflammation</td>
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<td>inhibition of CD4⁺ and CD8⁺ T cell activation and proliferation by granulocytic (G)-MDSCs from tumor-bearing mice, mainly via arginase-1 and ROS overproduction</td>
<td>reviewed in ref. 20-21</td>
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<td>T cell and neutrophil reciprocal influence their effector functions under co-culture conditions, either via chemokine and cytokine production or contact-dependent mechanisms</td>
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