CD14 hi HLA-DR dim macrophages, with a resemblance to classical blood monocytes, dominate inflamed mucosa in Crohn's disease

Intestinal MΦ play an important role in maintaining gut homeostasis. However, little is known about these cells, their precursors, and their role in intestinal inflammation. Here, we characterize the CD14 mononuclear cell populations in intestinal mucosa and blood in patients with CD. Among the LP CD14+ MΦ, we identified three distinct HLA-DR+ expressing subsets. Compared with uninfamed, inflamed mucosa contained a marked increase in the proportion of the CD14 hi HLA-DR dim cellular subset. This subset resembled the classical blood monocytes with low CD16, HLA-DR, and CX3CR1 expression. Classical monocytes migrated efficiently toward CCL2 and released the highest levels of MMP-1 and proinflammatory cytokines when stimulated with immune complexes or LPS. Our findings strongly suggest that it is the classical and not the intermediate or nonclassical monocytes that are the precursors to the dominating intestinal CD14 hi HLA-DR dim subset. This enhances our understanding of CD pathology and may provide new options in treatment.

General information
State: Published
Organisations: Lund University, Hannover Medical School, Novo Nordisk AS
Pages: 531-541
Publication date: 2014
Peer-reviewed: Yes

Publication information
Journal: Journal of Leukocyte Biology
Volume: 95
Issue number: 3
ISSN (Print): 0741-5400
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Scopus rating (2017): CiteScore 3.56 SJR 2.04 SNIP 0.98
Web of Science (2017): Impact factor 4.224
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 4 SJR 2.473 SNIP 1.09
Web of Science (2016): Impact factor 4.018
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): CiteScore 3.95 SJR 2.459 SNIP 1.141
Web of Science (2015): Impact factor 4.165
BFI (2014): BFI-level 1
Scopus rating (2014): CiteScore 3.94 SJR 2.589 SNIP 1.173
Web of Science (2014): Impact factor 4.289
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): CiteScore 4.22 SJR 2.651 SNIP 1.188
Web of Science (2013): Impact factor 4.304
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): CiteScore 4.6 SJR 2.624 SNIP 1.269
Web of Science (2012): Impact factor 4.568
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): CiteScore 4.5 SJR 2.538 SNIP 1.303
Web of Science (2011): Impact factor 4.992
ISI indexed (2011): ISI indexed yes