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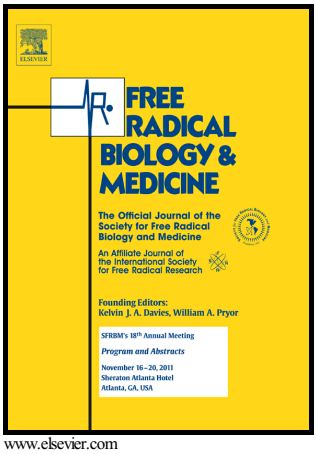

www.elsevier.com

PII: S0891-5849(17)30135-1
DOI: http://dx.doi.org/10.1016/j.freeradbiomed.2017.03.011
Reference: FRB13253

To appear in: *Free Radical Biology and Medicine*

Received date: 12 September 2016
Revised date: 1 March 2017
Accepted date: 11 March 2017

Cite this article as: Xiaomei Li, Xiaowen Li, Qingjuan Shang, Zongwei Gac Fabao Hao, Hongjie Guo and Chunbao Guo, Fecal microbiota transplantatio (FMT) could reverse the severity of experimental necrotizing enterocolitis (NEC via oxidative stress modulation, *Free Radical Biology and Medicine* http://dx.doi.org/10.1016/j.freeradbiomed.2017.03.011

Fecal microbiota transplantation (FMT) could reverse the severity of experimental necrotizing enterocolitis (NEC) via oxidative stress modulation

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ABSTRACT

Fecal microbiota transplantation (FMT) has been used successfully to treat a variety of gastroenterological diseases. The alterations of microbiota in mouse models of necrotizing enterocolitis (NEC) as well as in patients suggested the possibility of treating NEC with FMT. Here we show that FMT caused an improvement in the histopathology and symptoms of NEC in WT mice, but not Grx1-/- mice. FMT eliminated $O_2^{\bullet}$– production and promoted NO production in experimental NEC mice though the modulation of S-glutathionylation of eNOS (eNOS-SSG). FMT decreased the extent of TLR4-mediated proinflammatory signaling though TLR9 in the intestinal mucosa tissue. FMT also suppressed intestinal apoptosis and bacterial translocation across the intestinal barrier,

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