Abstract
Purpose of review: Recent literature has focused on the role of the gut and increased gut permeability as a driver of systemic inflammation in critical illness. Thus, the therapeutic potential for an agent to prevent gut barrier compromise and attenuate gut-derived inflammatory response is significant.
Recent findings: In laboratory and clinical settings, glutamine can attenuate gut permeability following critical illness and injury. Further, recent literature has revealed other mechanisms by which glutamine may attenuate the systemic inflammatory response driven by the gut. These findings reveal that glutamine may act at multiple levels to attenuate gut injury and potential subsequent gut-derived systemic inflammatory response. These mechanisms focus around glutamine’s ability to induce the cellular protective stress response in the gut. This leads to enhanced protection of the gut epithelial barrier and attenuation of generation of inflammatory mediators.
Summary: These mechanistic findings, combined with a limited amount of clinical data showing benefit on gut permeability in illness and injury, indicate more formal studies need to be carried out looking the role of glutamine in gut protection and as an antiinflammatory in critical illness.