Abstract

Introduction: although -hydroxy--methylbutyrate (HMB) is generally marketed as a supplement for increasing muscle mass and strength, it is still not fully understood how and in which particular sports and conditions HMB can be more effective. Aims: the primary purpose of this review is to update and summarize the current knowledge about the usefulness of HMB and to organize this information by different sports with specific reference to sports with high wear and tear phenomena as soccer, rugby or football. Methods: a search was performed in PubMed database. This review presents the results about HMB use in sport. Results: the articles identified in this review support the notion that HMB could help to attenuate tissue catabolism and initiate muscle anabolism particularly in untrained individuals exposed to strenuous exercise or when trained individual are exposed to periods of high physical stress. HMB could therefore be applied in some specific periods of athlete’s season where there are high-intensity training periods, high density of competitions and little recovery time between them, starting recovery phases from an injury period and/or any other different situation where performance or recovery could be affected by a great catabolic environment. Conclusion: this update contributes to clarify and define possible mechanisms and/or effectiveness of HMB supplementation related to endurance sports (i.e. cycling and athletics), strength-power sports (i.e. resistance training, football, rugby, soccer, judo, waterpolo and rowing) and recreational activities.

Keywords

HMB, Recovery, DOMS, Signalling-molecule, mTOR.