**Supplementary table 3. Risk of bias assessment of each study – Non-athletes**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| *Reference* | *Absence of allocation secrecy* | *Absence of masking (blinding)* | *Incomplete follow-up* | *Selective reporting of outcomes* | *Other limitations* | *Quality* |
| Aucouturier et al., 2015(38) | No | No | No | No | No | High |
| Bailey et al. 2009, 2009(18) | No | No | No | No | No | High |
| Bailey et al., 2010(19) | No | No | No | No | No | High |
| Bailey et al., 2015(39) | No | No | No | No | No | High |
| Breese et al., 2013(40) | No | No | No | No | No | High |
| Buck et al., 2015(41) | No | No | No | No | No | High |
| Christensen et al., 2017(42) | No | No | No | No | No | High |
| Coggan et al., 2015(43) | No | No | No | No | No | High |
| Corry et al., 2015(44) | No | Yes, *“The study implemented a randomized single-blind repeated measures crossover design”.* | No | No | No | Moderate |
| Fulford et al., 2013(45) | No | No | No | No | No | High |
| Kelly et al., 2013(46) | No | No | No | No | No | High |
| Kokkinoplitis et al., 2014(47) | No | No | No | No | No | High |
| Lansley et al., 2011a(23) | No | No | No | No | No | High |
| Larsen et al., 2010(15) | No | No | No | No | No | High |
| Mosher et al., 2016(48) | No | No | No | No | No | High |
| Murphy et al., 2012(49) | No | No | No | No | No | High |
| Nyakayiru et al., 2017(50) | No | No | No | No | No | High |
| Porcelli et al., 2015(51) | No | No | No | No | No | High |
| Rienks et al., 2015(52) | No | No | No | No | No | High |
| Thompson et al., 2014(53) | No | No | No | No | No | High |
| Thompson et al., 2015(54) | No | No | No | No | No | High |
| Vanhatalo et al., 2010(16) | No | No | No | No | No | High |
| Vasconcellos et al., 2017(55) | No | No | No | No | No | High |
| Wylie et al., 2013a(17) | No | No | No | No | No | High |
| Wylie et al., 2013b(56) | No | No | No | No | No | High |
| Wylie et al., 2016(57) | No | No | No | No | No | High |

**Supplementary table 4. Risk of bias assessment of each study – Athletes**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| *Reference* | *Absence of allocation secrecy* | *Absence of masking (blinding)* | *Incomplete follow-up* | *Selective reporting of outcomes* | *Other limitations* | *Quality* |
|
|
| Bescós et al., 2011(26) | No | No | No | No | No | High |
| Bescós et al., 2012(25) | No | No | No | No | No | High |
| Bond et al., 2012(20) | No | No | No | No | No | High |
| Boorsma et al., 2014(58) | No | No | No | No | No | High |
| Callahan et al., 2017(59) | No | No | No | No | No | High |
| Cermak et al., 2012a(21) | No | No | No | No | No | High |
| Cermak et al., 2012b(27) | No | No | No | No | No | High |
| Christensen et al., 2013(32) | No | Yes, *“we could not conduct a double-blinded study”.* | No | No | No | Moderate |
| Christensen et al., 2017(42) | No | No | No | No | No | High |
| Glaister et al., 2015(60) | No | No | No | No | No | High |
| Hoon et al., 2014a(61) | No | Not reported | No | No | No | Moderate |
| Hoon et al., 2014b(62) | No | No | No | No | No | High |
| Kramer et al., 2016(63) | No | No | No | No | No | High |
| Lane et al., 2014(64) | No | No | No | No | No | High |
| Lansley et al., 2011b(22) | No | No | No | No | No | High |
| Lowings et al., 2017(65) | No | No | No | No | No | High |
| Martin et al., 2014(66) | No | No | No | No | No | High |
| McQuillan et al., 2016a(67) | No | No | No | No | No | High |
| McQuillan et al., 2016b(68) | No | No | No | No | No | High |
| Muggeridge et al., 2013(69) | No | Yes, “*It was therefore not possible to blind participants to the specific supplementation given the distinctive taste of the drinks*”. | No | No | No | Moderate |
| Nyakayiru et al., 2016(70) | No | No | No | No | No | High |
| Peacock et al., 2012(28) | No | No | No | No | No | High |
| Peeling et al., 2015(1 and 2) (71) | No | Yes, *“consumed, in single-blinded crossover allocation”.* | No | No | No | Moderate |
| Peeling et al., 2015(3 and 4) (71) | No | No | No | No | No | High |
| Rimer et al., 2015(72) | No | No | No | No | No | High |
| Rimer et al., 2016(73) | No | No | No | No | No | High |
| Shannon et al., 2017(74) | No | No | No | No | No | High |
| Thompson et al., 2016(75) | No | No | No | No | No | High |
| Wilkerson et al., 2012(76) | No | Yes, *“These two conditions were administered using a randomized, single-blind, crossover design”.* | No | No | No | Moderate |