**Supplementary Table 2.** List of excluded studies and reason for exclusion.

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| --- | --- |
| **Reference** | **Reason for exclusion** |
| [1] | This study looked at the effects of vitamin D on smooth muscle cells. Due to the focus of the review being skeletal muscle cells, this review was excluded. |
| [2] | This study administered vitamin D to live rats, so vitamin D treatment was *in vivo.* This was not in line with the inclusion criteria of *in vitro* studies. |
| [3] | This study administered vitamin D to sea bass larvae, so vitamin D treatment was *in vivo.* This was not in line with the inclusion criteria of *in vitro* studies. |
| [4] | This study administered vitamin D to live C57BL/6 J mice, so vitamin D treatment was *in vivo.* This was not in line with the inclusion criteria of *in vitro* studies. |
| [5] | Muscle biopsies taken from cancer patients making it difficult to compare results to muscle cells from healthy patients/cell lines. |
| [6] | This study administered vitamin D to live wistar rats, so vitamin D treatment was *in vivo.* This was not in line with the inclusion criteria of *in vitro* studies. |
| [7] | This study administered vitamin D to live mice, so vitamin D treatment was *in vivo.* This was not in line with the inclusion criteria of *in vitro* studies. The VDR was also knocked down so was not comparable to other studies. |
| [8] | This study looked at the effects of vitamin D on cardiomyocyte cells. Due to the focus of the review being skeletal muscle cells, this review was excluded. |
| [9] | This study administered vitamin D to live broiler chickens, so vitamin D treatment was *in vivo.* This was not in line with the inclusion criteria of *in vitro* studies. |
| [10] | This study used an *in vitro* model using C2C12 cells however, they knocked down the VDR using shRNA which makes it difficult to compare to the other studies within the review. |
| [11] | This study administered vitamin D to live rats, so vitamin D treatment was *in vivo.* This was not in line with the inclusion criteria of *in vitro* studies. |
| [12] | This study administered vitamin D to live rats, so vitamin D treatment was *in vivo.* This was not in line with the inclusion criteria of *in vitro* studies. |
| [13] | This study administered vitamin D to live rats, so vitamin D treatment was *in vivo.* This was not in line with the inclusion criteria of *in vitro* studies. |

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