**Supplementary table 1** Studies excluded from the review

|  |  |  |  |
| --- | --- | --- | --- |
| No viral culture or PCR | Viral culture but no PCR | Not all participants had viral PCR | Not specified how infection was included, likely no viral diagnostics |
| Tarvij *et al.* 2012[17]Smith *et al.* 2008[5]Mhanna *et al.* 2008[18]Rodriquez *et al.* 1990[19]Bonadio *et al.* 1988[20]Pappu *et al.* 1982[21]Illi *et al.* 1983[22]Gill *et al.* 1980[23]Heine *et al.* 1981[24]Gutierrez *et al.* 1977[25]Sarff *et al.* 1976[26] Krause et al. 1975[27]Naidoo *et al.* 1968[28]Roldan *et al.* 1968[29]Otila *et al.* 1949[30] | Bonadio *et al.* 1992[31]Bonadio *et al.* 1989[32]Portnoy *et al.* 1985[33]Escobedo *et al.* 1975[34] | De Blaw *et al.* 2019[35]Byington *et al.* 2011[7]Chadwick *et al.* 2011[6] | Liu *et al.* 2019[36]Majumdar *et al.* 2013[37]Moreno-Carvalho *et al.* 2008[38] |
| Antibiotics before lumbar puncture  | **Neurological or systemic illness** | **Only total cell count reported and not clear if infants were term or preterm** |  |
| Thomson *et al.* 2018[43]Srinivasan *et al.* 2012[3]Shah *et al.* 2011[4]Kestenbaum *et al.* 2010[44] | Carraccio *et al.* 1995[61]Weyrauch *et al.* 1973[62]Dos Reis *et al.* 1970[63]Wolf *et al.* 1961[64] | Gyllensward *et al.* 1962 [65] |  |