**Table S4**. Distribution of the chitinase and cathepsin in betabaculovirus genomes.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Clade** | **Betabaculovirus** | **Acronym** | **ChiA** | **V-Cath** |
| A | Agrotis segetum granulovirus isolate L1 | AgseGV-L1 | + | + |
| Plutella xylostella granulovirus | PlxyGV | - | - |
| Spodoptera litura granulovirus K1 | SpliGV | - | - |
| Mythimna unipuncta granulovirus | MyunGV | - | - |
| Spodoptera frugiperda granulovirus | SpfrGV | - | - |
| Mocis latipes granulovirus | MolaGV | - | - |
| Pseudaletia unipuncta granulovirus | PsunGV | + | + |
| Trichoplusia ni granulovirus | TnGV | + | + |
| Helicoverpa armigera granulovirus | HaGV | - | + |
| Xestia c-nigrum granulovirus | XcGV | + | + |
| B | Epinotia aporema granulovirus | EpapGV | + | + |
| Plodia interpunctella granulovirus | PiGV | - | + |
| Clostera anastomosis granulovirus | ClasGV | + | + |
| Clostera anachoreta granulovirus | ClanGV | + | + |
| Cydia pomonella granulovirus | CpGV | + | + |
| Cryptophlebia leucotreta granulovirus CV3 | CrleGV | + | + |
| Cnaphalocrocis medinalis granulovirus | CnmeGV | - | - |
| Adoxophyes orana granulovirus | AdorGV | - | - |
| Phthorimaea operculella granulovirus | PhopGV | - | - |
| Diatraea saccharalis granulovirus | DisaGV | - | - |
| Pieris rapae granulovirus isolate E3 | PiraGV-E3 | + | + |
| Choristoneura occidentalis granulovirus | ChocGV | - | - |
| Clostera anastomosis granulovirus B | ClasGV-B | - | - |
| Erinnyis ello granulovirus | ErelGV | - | - |