In order to see if there is a significant expansion of any enzyme families in *O. ulmi*, we used Pfam to identify protein domains in *O. ulmi* and two other species, *G. clavigera* and *N. crassa*. In the following table, some of protein domains that based on our knowledge were important in pathogenicity are shown. Each column contains total number of domains found in each species.

|  |  |  |  |
| --- | --- | --- | --- |
| Protein domain | *O.ulmi* | *G.clavigera* | N.crassa |
| Glycosyl hydrolase | 223 | 212 | 260 |
|  |  |  |  |
| Glycosyl Transferase | 74 | 75 | 76 |
|  |  |  |  |
| Sugar | 246 | 219 | 176 |
|  |  |  |  |
| Polysaccharide Lyase | 0 | 1 | 0 |
| Polysaccharide deacetylase | 7 | 7 | 8 |
| Lipopolysaccharide kinase | 54 | 48 | 53 |
| polysaccharide biosynthesis protein | 33 | 44 | 43 |
|  |  |  |  |
| Carbohydrate Esterase | 0 | 0 | 0 |
| carbohydrate kinase | 29 | 29 | 36 |
| carbohydrate phosphorylase | 2 | 1 | 1 |
|  |  |  |  |
| carbohydrate binding domain | 7 | 2 | 8 |
| Carbohydrate-Binding Module | 1 | 1 | 3 |
|  |  |  |  |
| Squalene epoxidase | 14 | 12 | 19 |
| Copper amine oxidase | 21 | 23 | 5 |
| Prenyltransferase and squalene oxidase repeat | 21 | 24 | 30 |
| Multicopper oxidase | 87 | 85 | 86 |
| linked oxidase | 8 | 5 | 4 |
| Cytochrome c oxidase | 45 | 28 | 60 |
| peroxidase | 15 | 10 | 16 |
| Cytochrome oxidase | 14 | 15 | 13 |