|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Atributos** |  |  |  |  |  |
| **Entidade/relacionamento** | **Nome** | **Tipo e dominio** | **Multivalor** | **Nulos** | **Chave primária** |
| **Genbank** | ID\_version\_seq | String(50) | - | N | S |
|  | Organism | String(200) | - | N | N |
|  | Acession | String(50) | - | N | N |
|  | Definition | String(200) | - | S | N |
|  | KeyWords | String(200) | - | S | N |
|  | ID\_locus | String(50) | - | S | N |
| **Locus** | ID | String(50) | - | N | S |
|  | Size | Int | - | N | N |
|  | Molecular type | String(50) | - | N | N |
|  | Genbank division | String(3) | - | N | N |
|  | Modification date | Date(dd/mm/yyyy) | - | N | N |
| **Sequences** | ID\_version\_seq | String(50) | - | N | S |
|  | Sequence | Long Text | - | N | N |
|  | Count A | Int | - | S | N |
|  | Count C | Int | - | S | N |
|  | Count T | Int | - | S | N |
|  | Count G | Int | - | S | N |
| **Features** | ID\_version\_genbank | String(50) | - | N | S |
|  | CDS\_count | Int | - | N | N |
|  | Gene | Int (quantas genes) | - | S | N |
|  | Regulatory | Int (quantas zonas regulatórias) | - | S | N |
|  | Exons | Int | - | S | N |
|  | Poly A-site | Int | - | S | N |
|  | Misc – feature | Int | - | S | N |
|  | mRNA | Int | - | S | N |
|  | Location\_span | String(45) |  |  |  |
| **CDS** | ID\_protein\_cds | String(50) | - | N | S |
|  | Translacion seq | String (10000) | - | N | N |
|  | Localization | String(2000) | - | N | N |
|  | ID\_version\_features | String(50) | - | N | N |
|  | Protein | String(2000) | - | N | N |
| **Genbank\_reference** | ID\_version\_connect | String(45) | - | N | S |
|  | Journal\_connect | String(200) | - | N | N |
| **Authors** | Names | String(45) | - | N | S |
| **References** | Journal\_ID | String(200) | - | N | S |
|  | Pubmed | String(50) | - | S | N |
|  | Title | String(200) | - | S | N |
|  | Consortium | String(200) | - | S | N |
|  | Remark | String(200) | - | S | N |
| **Pubmed \_Info** | ID\_Journal | String(200) | - | N | S |
|  | Title | String(200) | - | N | N |
|  | DOI | String(50) | - | N | N |
|  | Affiliation | String(200) | - | N | N |
|  | Abstract | String(2000) | - | N | N |
| **Reference\_Authors** | Reference\_journal\_key | String(200) | - | S | N |
|  | Authors\_key | String(45) | - | S | N |

|  |  |  |  |  |
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| **Entidade** | **#** | **Relacionamento** | **Entidade** | **#** |
| Genbank | 1…1 | Contém | Locus | 1…1 |
| Genbank | 1…1 | Contém | Sequences | 1…1 |
| Genbank | N…N | Genbank\_reference | reference | N…N |
| Genbank | 1…1 | Contém | Features | 1…1 |
| Features | 1…N | Contém | CDS | N…1 |
| Reference | N…N | reference\_authors | Authors | N…N |
| Reference | 1…1 | Contém | Pubmed info | 1…1 |

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| Entidade |  |
| Nome | Descrição |
| Genbank |  |
| Locus |  |
| Sequence |  |
| References |  |
| Authors |  |
| Features |  |
| CDS |  |
| Source |  |