**Annotation Procedure of Nitrogen-removing Microbes**

**Table 1:** Description of entry fields used to annotate BNR microbes based on functional genes that encode functional enzymes involved in BNR processes.

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| --- | --- |
| **Field Name** | **Description** |
| GenBank ID | Unique database identifier for a particular key gene |
| Microorganism | Microorganism that possess the key gene |
| Isolation Source | The geographical source of the organism from which the sequence was derived |
| Taxonomy | Identification and Classification of the microorganism |
| Encoding Gene | Approved name of the gene |
| Enzyme Name | Approved common name of the protein encoded for by the gene |
| DNA size(bp) | Size of the DNA of the gene |
| Nucleotide FASTA sequence | External link to NCBI to access the nucleotide sequence of the gene in FASTA format |
| UniProtKB ID | External link to UniProtKB database |
| Protein GenBank IB | External link to the NCBI protein sequence |
| Length (aa) | Number of amino acids in the canonical sequence |
| Protein FASTA sequence | External link to the NCBI amino acid sequence of the gene in FASTA format |
| Reference | Name of authors of the research article |
| Title | The name of the academic paper that summarizes the main ideas of the study |
| PMID | External link to PubMed |
| Research Link | External link to full article |
| Abstract | Quick overview of the academic paper |

Table 2: Description of fields used to annotate nitrogen-removing microbial strains based on 16S rRNA gene analysis.

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| **Field Name** | **Description** |
| GenBank ID | Unique database identifier for BNR microbe identified by their ability to be involved in any of the BNR processes |
| Microorganism | Microorganism that has the ability to perform BNR |
| Isolation Source | The geographical source from which the microorganism was taken |
| Taxonomy | Identification and Classification of the microorganism |
| Electron Donor/ Energy Source | A reactant that donates electrons in an oxidation-reaction in an oxidation-reduction reaction |
| Final product | The intermediary and final end products of the BNR process under study |
| Respiration | Ability of the BNR microbe to perform BNR processes in anaerobic or aerobic conditions |
| Electron Acceptor | The nitrogenous compound/ intermediate consumed or reduced |
| Reference | Name of authors of the research article |
| Title | The name of the academic paper that summarizes the main ideas of the study |
| PMID | External link to PubMed |
| Research Link | External link to full article |
| Abstract | Quick overview of the academic paper |