

# Obscuribacter gen. nov. and Obscuribacter phosphatis sp. nov.

Submitted by Chuvochina, Maria

## Order *Obscuribacterales*

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### Etymology

[Ob.scu.ri.bac.te.ra'les] N.L. masc. n. *Obscuribacter*, type genus of the order; *-ales*, ending to denote an order; N.L. fem. pl. n. *Obscuribacterales*, the Obscuribacter order

### Nomenclatural type

Genus *Obscuribacter*

### Description

The description is the same as given by (Soo et al., 2014).

### Classification

*Bacteria* » *Cyanobacteriota* » "Vampirovibrionia" » *Obscuribacterales*

### References

Proposed: Soo et al., 2014

### Registry URL

<https://seqco.de/i:31957>

## Genus *Obscuribacter*

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### Etymology

[Ob.scu.ri.bac'ter] L. masc. adj. *obscurus*, dark; N.L. masc. n. *bacter*, a rod; N.L. masc. n. *Obscuribacter*, a bacterium found in the dark

### Nomenclatural type

Species *Obscuribacter phosphatis*<sup>Ts</sup>

### Description

The description is the same as given to the type species by Soo et al. (2014).

### Classification

*Bacteria* » *Cyanobacteriota* » "Vampirovibrionia" » *Obscuribacterales* » "Obscuribacteraceae" » *Obscuribacter*

### References

Proposed: Soo et al., 2014

### Registry URL

<https://seqco.de/i:31955>

## Species *Obscuribacter phosphatis*<sup>Ts</sup>

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### Etymology

[phos.pha'tis] N.L. gen. n. *phosphatis*, of phosphate, accumulating phosphate

### Nomenclatural type

[NCBI Assembly: GCA\\_001899315.1](https://ncbi.nlm.nih.gov/assembly/GCA_001899315.1)<sup>Ts</sup>

### Description

The description is the same as provided by Soo et al. (2014):

EBPR\_351 representing the order Obscuribacterales is conspicuous among the Melainabacteria genomes because of its larger size (5 Mb) and associated metabolic versatility. *Obscuribacter phosphatis* contains the genes necessary for polyphosphate metabolism, including a low-affinity inorganic phosphate transporter (PiT), polyphosphate kinase 1 (used to synthesize or degrade polyP while consuming or generating, respectively, ATP directly), polyphosphate kinase 2 (degrades polyP producing GTP from GDP), exopolyphosphatase (degrades polyP in a nonreversible reaction that does not generate ATP directly), polyphosphate:AMP phosphotransferase and adenylate kinase (Seviour and Nielsen 2010). *Obscuribacter phosphatis* has the capacity for aerobic and anaerobic respiration, and fermentation, allowing it to function during both the oxic and anoxic phases of EBPR (Blackall et al. 2002). It contains genes encoding a complete respiratory chain including Complexes I, II, III, and IV and an F-Type ATPase.

### Classification

*Bacteria* » *Cyanobacteriota* » “Vampirovibrionia” » *Obscuribacterales* » “Obscuribacteraceae” » *Obscuribacter* » *Obscuribacter phosphatis*<sup>Ts</sup>

### References

Proposed: Soo et al., 2014

### Registry URL

<https://seqco.de/i:23547>

## References

1. Soo et al. (2014). An Expanded Genomic Representation of the Phylum Cyanobacteria. *Genome Biology and Evolution*. DOI:10.1093/gbe/evu073

## Register List Certificate of Validation

On behalf of the *Committee on the Systematics of Prokaryotes Described from Sequence Data* (SeqCode Committee), we hereby certify that the Register List [seqco.de/r:j8zlp09](https://seqco.de/r:j8zlp09) submitted by **Chuvochina, Maria** and including 3 new names has been successfully validated.

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