

Resource Summary Report

Generated by SPARC SAWG on Sep 16, 2026

MiST - Microbial Signal Transduction database

RRID:SCR_003166

Type: Tool

Proper Citation

MiST - Microbial Signal Transduction database (RRID:SCR_003166)

Resource Information

URL: <http://mistdb.com>

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Description: Database which contains the signal transduction proteins for complete and draft bacterial and archaeal genomes. The MiST2 database identifies and catalogs the repertoire of signal transduction proteins in microbial genomes.

Abbreviations: MiST

Synonyms: MiST 2.2, Microbial Signal Transduction Database, Microbial Signal Transduction database (MiST), MiST2

Resource Type: data or information resource, database

Defining Citation: [PMID:19900966](#)

Keywords: signal transduction proteins, bacterial genome, archaeal genome, microbial genome, bio.tools

Funding: South Carolina Research Association ;
DOE Office of Science ;
NIH ;
NIGMS GM083177

Availability: Free, Freely available

Resource Name: MiST - Microbial Signal Transduction database

Resource ID: SCR_003166

Alternate IDs: biotools:mist, nif-0000-03140

Alternate URLs: <https://bio.tools/mist>

Record Creation Time: 20220129T080217+0000

Record Last Update: 20260912T200128+0000

Ratings and Alerts

No rating or validation information has been found for MiST - Microbial Signal Transduction database.

No alerts have been found for MiST - Microbial Signal Transduction database.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 35 mentions in open access literature.

Listed below are recent publications. The full list is available at [SPARC SAWG](#).

Yang X, et al. (2026) A Brief Progress in Methods for Deciphering Protein-Protein Interaction Networks. International journal of molecular sciences, 27(4).

Xie P, et al. (2024) Multifaceted regulation of siderophore synthesis by multiple regulatory systems in *Shewanella oneidensis*. Communications biology, 7(1), 498.

Gumerov VM, et al. (2024) MiST 4.0: a new release of the microbial signal transduction database, now with a metagenomic component. Nucleic acids research, 52(D1), D647.

Li T, et al. (2023) ELF5 drives angiogenesis suppression through stabilizing WDTC1 in renal cell carcinoma. Molecular cancer, 22(1), 184.

Zheng T, et al. (2023) Regulatory mechanisms of exopolysaccharide synthesis and biofilm formation in *Streptococcus mutans*. Journal of oral microbiology, 15(1), 2225257.

Stuffle EC, et al. (2023) The Aer2 chemoreceptor from *Vibrio vulnificus* is a tri-PAS-heme oxygen sensor. Molecular microbiology, 119(1), 59.

Shu R, et al. (2022) PAS Domain-Containing Chemoreceptors Influence the Signal Sensing and Intestinal Colonization of *Vibrio cholerae*. Genes, 13(12).

Ma P, et al. (2021) Membrane Sensor Histidine Kinases: Insights from Structural, Ligand and Inhibitor Studies of Full-Length Proteins and Signalling Domains for Antibiotic Discovery. Molecules (Basel, Switzerland), 26(16).

Ishii E, et al. (2021) Diversity in Sensing and Signaling of Bacterial Sensor Histidine Kinases. Biomolecules, 11(10).

- Liu X, et al. (2021) The Hypoxia-Associated Localization of Chemotaxis Protein CheZ in *Azorhizobium caulinodans*. *Frontiers in microbiology*, 12, 731419.
- Liu X, et al. (2020) Protein Residues and a Novel Motif Involved in the Cellular Localization of CheZ in *Azorhizobium caulinodans* ORS571. *Frontiers in microbiology*, 11, 585140.
- Gumerov VM, et al. (2020) MiST 3.0: an updated microbial signal transduction database with an emphasis on chemosensory systems. *Nucleic acids research*, 48(D1), D459.
- Gavira JA, et al. (2020) How Bacterial Chemoreceptors Evolve Novel Ligand Specificities. *mBio*, 11(1).
- Coutte L, et al. (2020) Combined RNAseq and ChIPseq Analyses of the BvgA Virulence Regulator of *Bordetella pertussis*. *mSystems*, 5(3).
- Rapun-Araiz B, et al. (2020) The impact of two-component sensorial network in staphylococcal speciation. *Current opinion in microbiology*, 55, 40.
- Tran NT, et al. (2019) Defining the regulon of genes controlled by σ^E , a key regulator of the cell envelope stress response in *Streptomyces coelicolor*. *Molecular microbiology*, 112(2), 461.
- Wu Y, et al. (2018) The Core- and Pan-Genomic Analyses of the Genus *Comamonas*: From Environmental Adaptation to Potential Virulence. *Frontiers in microbiology*, 9, 3096.
- Liu P, et al. (2018) Concerted Metabolic Shifts Give New Insights Into the Syntrophic Mechanism Between Propionate-Fermenting *Pelotomaculum thermopropionicum* and Hydrogenotrophic *Methanocella conradii*. *Frontiers in microbiology*, 9, 1551.
- Villanueva M, et al. (2018) Sensory deprivation in *Staphylococcus aureus*. *Nature communications*, 9(1), 523.
- Ortiz de Ora L, et al. (2018) Regulation of biomass degradation by alternative σ factors in cellulolytic clostridia. *Scientific reports*, 8(1), 11036.