

Strain identifier

BacDive ID: 14736 **DOI:** 10.13145/bacdiv14736.20190402.4
Type strain: yes
Culture col. no.: DSM 20523, ATCC 25175, IFO 13955, NBRC 13955, NCDO 2062, NCTC 10449

Sections

[Name and taxonomic classification](#)
[Morphology and physiology](#)
[Culture and growth conditions](#)
[Isolation, sampling and environmental information](#)
[Application and interaction](#)
[Molecular biology](#)
[Strain availability](#)
[References](#)

Name and taxonomic classification

Ref.: 8891	Domain	Bacteria
Ref.: 8891	Phylum	Firmicutes
Ref.: 8891	Class	Bacilli
Ref.: 8891	Order	Lactobacillales
Ref.: 8891	Family	Streptococcaceae
Ref.: 8891	Genus	Streptococcus
Ref.: 8891	Species	Streptococcus mutans
Ref.: 8891	Full Scientific Name	Streptococcus mutans Clarke 1924
Ref.: 8891	Designation:	None
Ref.: 8891	Type strain:	yes

Prokaryotic Nomenclature Up-to-date (PNU)

Ref.: 20215	Domain	Bacteria
Ref.: 20215	Phylum	Firmicutes
Ref.: 20215	Class	Bacilli
Ref.: 20215	Literature reference	Int. J. Syst. Evol. Microbiol. 60:469
Ref.: 20215	Family	Streptococcaceae
Ref.: 20215	Literature reference	Int. J. Syst. Bacteriol. 30:238
Ref.: 20215	Genus	Streptococcus



Ref.: 20215	Taxonomical status	genus (AL)
Ref.: 20215	Literature reference	Int. J. Syst. Bacteriol. 30:225
Ref.: 20215	Species	Streptococcus mutans
Ref.: 20215	Taxonomical status	species (AL)
Ref.: 20215	Literature reference	Int. J. Syst. Bacteriol. 30:225
Ref.: 20215	Full Scientific Name	Streptococcus mutans Clarke 1924

Morphology and physiology

Ref.: 8891 **Incubation period** 1-2 days

Ref.: 8891	Enzymes	Enzyme	Enzyme activity	EC number
		catalase	+	1.11.1.6
Ref.: 8891		cytochrome-c oxidase	-	1.9.3.1

Ref.: 8891

API rID32STR

API ID	2593	2307	2306	2305	2304	2303	2302
ADH (Arg)	-	-	-	-	-	-	-
betaGLU	+	+	+	+	+	+	+
betaGAR	-	-	-	-	-	-	-
betaGUR	-	-	-	-	-	-	-
alphaGAL	+	+	+	+	+	+	+
PAL	-	-	-	-	-	-	-
RIB	-	-	-	-	-	-	-
MAN	+	+	+	+	+	+	+
SOR	+	-	+/-	+/-	+	-	-
LAC	+	+	+	+	+	+/-	+
TRE	+	+	+	+	+	+	+
RAF	+	+	+	+	+	+	+
SAC	+	+	+	+	+	+	+
LARA	-	-	-	-	-	-	-
DARL	-	-	-	-	-	-	-
CDEX	-	-	-	n.d.	-	-	-
VP	+	+	+	-	+	+	+
APPA	+	+	+	+	+	+	+
betaGAL	-	-	-	-	-	-	-
PyrA	-	-	-	-	-	-	-
betaNAG	-	-	-	-	-	-	-

GTA	-	-	-	-	-	-	-
HIP	-	+	-	-	-	-	-
GLYG	-	-	-	-	-	-	-
PUL	-	-	-	-	-	-	-
MAL	+	+	+	+	+	+	+
MEL	+	+	+	+	+	+	+
MLZ	-	-	-	-	-	-	-
MbetaDG	-	-	+	-	+	-	-
TAG	+	+	+	+	+	-	+
betaMAN	-	-	-	-	-	-	-
URE	-	-	-	-	-	-	-

- Ref.: 8891 **Murein short key** A11.05
- Ref.: 8891 **Murein types** A3alpha L-Lys-L-Ala₂
- Ref.: 8891 **Oxygen tolerance** microaerophile

Culture and growth conditions

- Ref.: 8891 **Culture medium** COLUMBIA BLOOD MEDIUM (DSMZ Medium 693), 37°C, microaerophilic
- Ref.: 8891 **Culture medium growth** yes
- Ref.: 8891 **Culture medium link** https://www.dsmz.de/microorganisms/medium/pdf/DSMZ_Medium693.pdf
- Ref.: 8891 **Culture medium** TRYPTICASE SOY YEAST EXTRACT MEDIUM (DSMZ Medium 92), 37°C, microaerophilic
- Ref.: 8891 **Culture medium growth** yes
- Ref.: 8891 **Culture medium link** https://www.dsmz.de/microorganisms/medium/pdf/DSMZ_Medium92.pdf
- Ref.: 42086 **Culture medium** MEDIUM 6 - Columbia agar with 10 % horse blood
- Ref.: 42086 **Culture medium growth** yes
- Ref.: 42086 **Culture medium composition** Distilled water make up to (1000.000 ml);Columbia agar (39.000 g);Horseblood (100.000 ml)

Temperatures

- Ref.: 8891
- Ref.: 42086

Kind of temperature	Temperature
growth	37 °C
growth	37 °C

Ref.: 8891 **Temperature range** mesophilic
 Ref.: 42086 **Temperature range** mesophilic

Isolation, sampling and environmental information

Ref.: 8891 **Sample type/isolated from** carious dentine

Isolation sources categories

Cat1	Cat2	Cat3
#Host Body-Site	#Oral cavity and airways	#Tooth

Application and interaction

Ref.: 8891 **Biosafety level** 2 Risk group (German classification)

Molecular biology

Ref.: 8891 **GC-content** 37.9 mol%

	Sequence database	Sequence accession description	Sequence accession number	Sequence length(bp)	Associated NCBI tax ID	
Ref.: 20218	Marker Gene (DDBJ Direct submission)	Streptococcus mutans ddl gene for D-alanine:D-alanine ligase, partial cds, strain: SK28 (= NCTC 10449)	AB199344	292	1309	*
Ref.: 20218	Marker Gene (DDBJ Direct submission)	Streptococcus mutans sodA gene for manganese dependent superoxide dismutase, partial cds, strain: SK28 (= NCTC 10449)	AB200050	390	1309	*
Ref.: 20218	Marker Gene (DDBJ Direct submission)	Streptococcus mutans dexB gene for dextran glucosidase, partial cds, strain: ATCC 25175	AB232150	1597	1309	*
Ref.: 20218	Marker Gene (DDBJ Direct submission)	Streptococcus mutans rodA gene for rod shape-determining protein, partial cds, strain: SK28 (= NCTC 10449)	AB441159	370	1309	*
Ref.: 20218	Marker Gene (DDBJ Direct submission)	Streptococcus mutans atlA gene for autolysin, complete cds, strain: ATCC 25175	AB663344	2940	1309	*



Streptococcus mutans

Ref.: 20218	Marker Gene (DDBJ Direct submission)	Streptococcus mutans gene for 16S rRNA, partial sequence, strain: NBRC 13955	AB680533	1482	1309	*
Ref.: 20218	Marker Gene (GenBank Direct submission)	Streptococcus mutans Lral family operon, complete sequence	AF232688	3932	1309	*
Ref.: 20218	Marker Gene (GenBank Direct submission)	Streptococcus mutans elongation factor Tu (tuf) gene, partial cds	AF274741	827	1309	*
Ref.: 20218	Marker Gene (GenBank Direct submission)	Streptococcus mutans ATCC25175 60 kDa chaperonin (cpn60) gene, partial cds	AF352809	552	1309	*
Ref.: 20218	Marker Gene (EMBL Direct submission)	Streptococcus mutans, partial fba gene, strain NCTC 10449	AJ012141	532	1309	*
Ref.: 20218	Marker Gene (EMBL Direct submission)	Streptococcus mutans 16S rRNA gene, strain NCTC 10449	AJ243965	1512	1309	*
Ref.: 20218	Marker Gene (EMBL Direct submission)	Streptococcus mutans partial rnpB gene for ribonuclease P RNA, strain ATCC 25175 (CCUG 6519)	AJ511678	380	1309	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans ATCC 25175 Contig001, whole genome shotgun sequence	AOCB01000001	97600	1257041	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans ATCC 25175 Contig002, whole genome shotgun sequence	AOCB01000002	115037	1257041	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans ATCC 25175 Contig003, whole genome shotgun sequence	AOCB01000003	147931	1257041	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans ATCC 25175 Contig004, whole genome shotgun sequence	AOCB01000004	331591	1257041	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans ATCC 25175 Contig005, whole genome shotgun sequence	AOCB01000005	173398	1257041	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans ATCC 25175 Contig006, whole genome shotgun sequence	AOCB01000006	107076	1257041	*



Streptococcus mutans

Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans ATCC 25175 Contig007, whole genome shotgun sequence	AOCB01000007	200008	1257041	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans ATCC 25175 Contig008, whole genome shotgun sequence	AOCB01000008	233425	1257041	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans ATCC 25175 Contig009, whole genome shotgun sequence	AOCB01000009	581322	1257041	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans ATCC 25175 Contig010, whole genome shotgun sequence	AOCB01000010	12285	1257041	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans DSM 20523 B093DRAFT_scaffold_0.1_C, whole genome shotgun sequence	AQWT01000001	616300	1123310	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans DSM 20523 B093DRAFT_scaffold_1.2_C, whole genome shotgun sequence	AQWT01000002	345850	1123310	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans DSM 20523 B093DRAFT_scaffold_2.3_C, whole genome shotgun sequence	AQWT01000003	319787	1123310	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans DSM 20523 B093DRAFT_scaffold_3.4_C, whole genome shotgun sequence	AQWT01000004	128775	1123310	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans DSM 20523 B093DRAFT_scaffold_4.5_C, whole genome shotgun sequence	AQWT01000005	120909	1123310	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans DSM 20523 B093DRAFT_scaffold_5.6_C, whole genome shotgun sequence	AQWT01000006	106612	1123310	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans DSM 20523 B093DRAFT_scaffold_6.7_C, whole genome shotgun sequence	AQWT01000007	101662	1123310	*



Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans DSM 20523 B093DRAFT_scaffold_7.8_C, whole genome shotgun sequence	AQWT01000008	86313	1123310	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans DSM 20523 B093DRAFT_scaffold_8.9_C, whole genome shotgun sequence	AQWT01000009	53951	1123310	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans DSM 20523 B093DRAFT_scaffold_9.10_C, whole genome shotgun sequence	AQWT01000010	34506	1123310	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans DSM 20523 B093DRAFT_scaffold_10.11_C, whole genome shotgun sequence	AQWT01000011	21253	1123310	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans DSM 20523 B093DRAFT_scaffold_11.12_C, whole genome shotgun sequence	AQWT01000012	17361	1123310	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans DSM 20523 B093DRAFT_scaffold_12.13_C, whole genome shotgun sequence	AQWT01000013	16037	1123310	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans DSM 20523 B093DRAFT_scaffold_13.14_C, whole genome shotgun sequence	AQWT01000014	6095	1123310	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans DSM 20523 B093DRAFT_scaffold_14.15_C, whole genome shotgun sequence	AQWT01000015	3005	1123310	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans DSM 20523 B093DRAFT_scaffold_15.16_C, whole genome shotgun sequence	AQWT01000016	2898	1123310	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans DSM 20523 B093DRAFT_scaffold_16.17_C, whole genome shotgun sequence	AQWT01000017	2361	1123310	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans DSM 20523 B093DRAFT_scaffold_17.18_C, whole genome shotgun sequence	AQWT01000018	2028	1123310	*
Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans DSM 20523 B093DRAFT_scaffold_18.19_C, whole genome shotgun sequence	AQWT01000019	1757	1123310	*



Streptococcus mutans

Ref.: 20218	Whole Genome Shotgun (WGS) Sequence INSDC	Streptococcus mutans DSM 20523 B093DRAFT_scaffold_19.20_C, whole genome shotgun sequence	AQWT01000020	1307	1123310	*
Ref.: 20218	Marker Gene (GenBank Direct submission)	Streptococcus mutans strain ATCC 25175 16S ribosomal RNA gene, partial sequence	DQ303189	1481	1309	*
Ref.: 20218	Marker Gene (GenBank Direct submission)	Streptococcus mutans strain NCTC 10449 competence stimulating peptide precursor (comC) gene, complete cds	DQ403748	147	1309	*
Ref.: 20218	Marker Gene (GenBank Direct submission)	Streptococcus mutans ATCC 25175 elongation factor Tu (tuf) gene, complete cds	EF536028	1197	1309	*
Ref.: 20218	Marker Gene (GenBank Direct submission)	Streptococcus mutans strain ATCC 25175 16S ribosomal RNA gene, partial sequence	EU156766	1269	1309	*
Ref.: 20218	Marker Gene (GenBank Direct submission)	Streptococcus mutans strain ATCC 25175 RecA (recA) gene, partial cds	EU156824	756	1309	*
Ref.: 20218	Marker Gene (GenBank Direct submission)	Streptococcus mutans strain ATCC 25175 F-ATPase beta-subunit (atpD) gene, partial cds	EU156882	753	1309	*
Ref.: 20218	Marker Gene (GenBank Direct submission)	Streptococcus mutans strain NCTC10449 DNA gyrase subunit A (gyrA) gene, partial cds	GU982979	525	1309	*
Ref.: 20218	Marker Gene (GenBank Direct submission)	Streptococcus mutans strain NCTC10449 DNA gyrase subunit B (gyrB) gene, partial cds	GU982994	402	1309	*
Ref.: 20218	Marker Gene (GenBank Direct submission)	Streptococcus mutans strain NCTC10449 DNA topoisomerase IV subunit A (parC) gene, partial cds	GU983009	453	1309	*
Ref.: 20218	Marker Gene (GenBank Direct submission)	Streptococcus mutans strain NCTC10449 DNA topoisomerase IV subunit B (parE) gene, partial cds	GU983024	390	1309	*
Ref.: 20218	Marker Gene (EMBL Direct submission)	Streptococcus mutans partial recA gene, strain ATCC 25175	HE616833	245	1309	*
Ref.: 20218	Marker Gene (EMBL Direct submission)	TPA: Streptococcus mutans ATCC 25175 transfer-messenger mRNA Strep_mutan_UA159, single chain mature transcript	HG789058	349	1257041	*



Ref.: 20218	Marker Gene (EMBL Direct submission)	TPA: Streptococcus mutans DSM 20523 transfer-messenger mRNA Strep_mutan_UA159, single chain mature transcript	HG789059	349	1123310	*
Ref.: 20218	Marker Gene (GenBank Direct submission)	Streptococcus mutans strain ATCC 25175 dextranase gene, complete cds	HQ711852	2553	1309	*
Ref.: 20218	Marker Gene (GenBank Direct submission)	Streptococcus mutans strain ATCC 25175 16S ribosomal RNA gene, partial sequence; 16S-23S ribosomal RNA internal transcribed spacer, complete sequence; and 23S ribosomal RNA gene, partial sequence	JN181388	654	1309	*
Ref.: 20218	Marker Gene (GenBank Direct submission)	Streptococcus mutans ATCC 25175 ADP-glucose pyrophosphorylase catalytic subunit (glgC) gene, complete cds	KC473822	1146	1257041	*
Ref.: 20218	Marker Gene (GenBank Direct submission)	Streptococcus mutans ATCC 25175 ADP-glucose pyrophosphorylase inactive subunit (glgD) gene, complete cds	KC473823	1134	1257041	*
Ref.: 20218	Marker Gene (GenBank Direct submission)	Streptococcus mutans strain ATCC 25175 UDP-glucose pyrophosphorylase gene, complete cds	KC626324	921	1309	*
Ref.: 20218	Marker Gene (GenBank Direct submission)	Streptococcus mutans ATCC 25175 16S rRNA gene, partial sequence	U02919	392	1309	*
Ref.: 20218	Marker Gene (GenBank Direct submission)	Streptococcus mutans NCTC 10449 D-Alanine:D-Alanine ligase gene, partial cds	U69165	594	1309	*
Ref.: 20218	Marker Gene (EMBL Direct submission)	S.mutans 16S rRNA	X58303	1334	1309	*
Ref.: 20218	Marker Gene (EMBL Direct submission)	Streptococcus mutans sodA gene	Z95910	435	1309	*
Ref.: 8891	GenBank Direct submission	Streptococcus mutans strain ATCC 25175 16S ribosomal RNA gene, complete sequence	AY188348	1545	1309	

Strain availability



Ref.: 8891 **Culture collection no.** DSM 20523, ATCC 25175, IFO 13955, NBRC 13955, NCDO 2062, NCTC 10449

Ref.: 8891 **Strain history** <- NCTC <- W. Sims

Associated Passport(s) in StrainInfo

Ref.: 20218 40029 - <http://www.straininfo.net/strains/40029>

Ref.: 20218 40020 - <http://www.straininfo.net/strains/40020>

Ref.: 20218 40030 - <http://www.straininfo.net/strains/40030>

Ref.: 20218 335027 - <http://www.straininfo.net/strains/335027>

Ref.: 20218 145909 - <http://www.straininfo.net/strains/145909>

Ref.: 20218 40034 - <http://www.straininfo.net/strains/40034>

References

Ref.: 8891 Leibniz Institut DSMZ-Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH; Curators of the DSMZ; DSM 20523

Ref.: 20215 D.Gleim, M.Kracht, N.Weiss et. al.: Prokaryotic Nomenclature Up-to-date - compilation of all names of Bacteria and Archaea, validly published according to the Bacteriological Code since 1. Jan. 1980, and validly published nomenclatural changes since.

Ref.: 20218 Verslyppe, B., De Smet, W., De Baets, B., De Vos, P., Dawyndt P. StrainInfo introduces electronic passports for microorganisms.. Syst Appl Microbiol. 37: 42-50 2014 (10.1016/j.syapm.2013.11.002, 24321274)

Ref.: 42086 None; Curators of the CIP; None

*** These References are textmined**

[back to top](#)