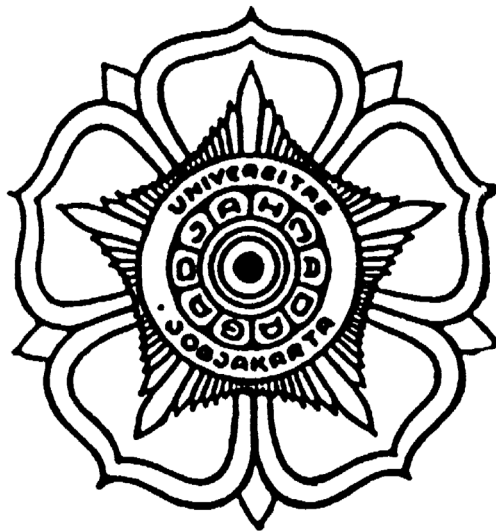


CATALOGUE

**Food and Nutrition Culture Collection
(FNCC)**



**Pusat Studi Pangan dan Gizi
Universitas Gadjah Mada
2022**

FOOD AND NUTRITION CULTURE COLLECTION (FNCC)

INTRODUCTION

Food and Nutrition Culture Collection (FNCC) was established in 1991, initiated by Dr. Slamet Sudarmadji, Director Food and Nutrition Development and Research Center (FANDARC), Gadjah Mada University, period 1985 to March 1995. FNCC researchers and technicians devote to themselves to the development of the culture collection. the main purposes of FNCC are to collect, characterize, preserve and distribute microbial cultures of food and industrial significance. FNCC also contributes to the development of research, education, and industrial application related to food microbiology. Training courses are also occasionally offered.

FNCC greatly indebted to the various established culture collection and research organization in the world, namely, Institute of Fermentation Osaka (IFO, Japan); Japan Collection of Microorganisms (JCM, Japan); IAM Culture Collection (The University of Tokyo, Japan); Centraalbureau voor Schimmelcultures (CBS, The Netherlands); and CSIRO, North Ryde (Australia) that already made contributions in training and provide cultures. Future cooperation from all culture collection institutions is expected and appreciated.

We continue to be committed in providing the best service, assistance and technical support available.

PERSONALS

Chairman of CFNS UGM	: Prof. Dr. Ir. Endang S. Rahayu, M.S.
Curator	: Prof. Dr. Ir. Endang S. Rahayu, M.S.
Bacteria	: Prof. Dr. Ir. Eni Harmayani, M.Sc. Prof. Dr. Ir. Tyas Utami, M.Sc.
Yeast	: Dr. Ir. Retno Indrati, M.Sc. Dr. Ir. M. Nur Cahyanto, M.Sc.
Filamentous Fungi	: Prof. Dr. Ir. Sardjono, MS. Prof. Dr. Ir. Endang S. Rahayu, M.S.
Technicians	: Joko Sutriyanto Agus Sarwoko Pri Haryono

ORDERING CULTURES

Cultures are provided to research and industrial laboratories and education all establishments upon request. The cultures are prepared on Agar slants. All orders should be addressed to:

Food and Nutrition Culture Collection
Center for Food and Nutrition Studies Gadjah Mada University
Jl. Teknika Utara Berek Yogyakarta 55281 Indonesia
Phone/Fax : (0274) 589 242
WhatsApp : 085728899678
Email : cfns@ugm.ac.id

Fee: Rp 400.000,00 per culture for research and educational purposes and Rp 500.000,00 per culture for industrial/commercial purposes; plus Rp. 50.000,- for domestic postage (Java island) and Rp 100.000,- for domestic postage (non Java island).

HOW TO USE THE CATALOGUE

The strain of microorganisms listed in this catalogue are classified into three parts: bacteria, yeast, and fungi. In each part, strains are alphabetically arranged according to the scientific name of the species. Example of the strain description are presented below:

Acetobacter aceti (Pasteur) Beijerinck”
0016 ²⁾ < - IFO 3283 (K. Kondo, 1954 vinegar) ⁴⁾

Lactobacillus fermeritum Beijernick”
0096 ²⁾ < - TTA 2 ³⁾ (Djaafar 1994 fermented cassava tape) ⁴⁾

- 1) Scientific name of species and authority of the scientific name
- 2) FNCC accession number.
- 3) Accession number of other Culture Collection or individual.
- 4) History of the strain (person concerned year and source of isolation)

BACTERIA

Acetobacter aceti (Pasteur) Beijerincki

0016 <- IFO 3283 (K. Kondo, 1954, Vinegar)

0017 <- IFO 3284 (K. Kondo, 1954, Vinegar)

0025 <- CCRC 11681

0484 <- ATCC 19573, BRL-121

Agrobacterium tumefaciens (Smith & Townsend) Conn

0077 <- IFO 12667

Alcaligenes xylosoxydans subsp. denitrificans (Ruger & Tan) Kiredjian et al.

0078 <- IFO 15125 (Type strain)

Bacillus amyloliquefaciens Priest et al

0079 <- IFO 14141

Bacillus amylolyticus Nakamura

0080 <- IFO 13625 (Type strain)

Bacillus cereus Frankland and Frankland

0057 <- IFO 13690

Bacillus coagulans Hammer

0081 <- IFO 3557

Bacillus macerans Schardinger

0082 <- IFO 15041

Bacillus megaterium de Bary

0083 <- IFO 12108

Bacillus polymyxa (Prazmowski) Mace

0084 <- IFO 13003

Bacillus stearothermophilus Donk

0058 <- IFO 12550

Bacillus subtilis (Ehrenberg) Cohn

0059 <- IFO 3335

0060 <- IFO 13719 (Type strain)

0061 <- IFO 14140

Bifidobacterium bifidum

0491 <- 29521, BRL-130

Bifidobacterium breve

0492 <- ATCC 15700, BRL-131

Brevibacterium flavum Okumura et al

0030 <- CCRC 10027

0031 <- CCRC 12470

Brevibacterium lipolyticum

0087 <- NRRL B-4202

Carnobacterium divergens

0490 <- 35677, BRL-129

Clostridium acetobutylicum McCoy et al

0085 <- IF0 13948 (Type strain)

Cocci, hetero, L

0230 <- T-22 (Coconut sap, 3-2-1999)

Cocci, homo, D

0243 <- T-82 (Tempoyak, 3-2-1999)

Corynebacterium glutanicum (Kinoshita et al) Abe et al

0062 <- IFO 12168

Corynebacterium hoagii (Morse) Ebersson

0126 <- JCM 1319 (Type strain)

Escherichia coli

0493 <- JM 109, BRL-132**

0494 <- BRL-132**

Escherichia coli (Miguta) Castellani & Chalmers

0091 <- IFO 3301

Gordona rubropertinctus (Hefferan) Stackebrandt, Smida & Collins

0130 <- JCM 3204 (Type strain)

Gordona terrae (Tsukamura) Stackebrandt, Smida & Collins

0131 <- JCM 3229 (Type strain)

Lactobacillus brevis

0298 <- Ais-11 (Fresh chicken meat, 20-3-1999)

Lactobacillus acidophilus

0464 <- ATCC 521, BRL-101

0465 <- VPI 1793 (JK), BRL-102

0466 <- VPI 1754 (JD), BRL-103

0467 <- B-39/4b (KI), BRL-104

0468 <- LA 606, BRL-105

0469 <- D-3(K9), BRL-106

0470 <- Ominiflora (K0), BRL-107

0471 <- ATCC 4962 (JO), BRL-108

Lactobacillus acidophilus (Moro) Hansen & Møcquot

- 0051 <- IFO 13951 (Type strain)
- 0379 <- SNP-2 (Feces infant, 12-5-1998)
- 0483 <- ATCC 4356, BRL-120

Lactobacillus brevis (Orla Jensen) Bergey et al

- 0021 <- IFO 3345
- 0022 <- IFO 13110
- 0028 <- CCRC 14028
- 0029 <- CCRC 14060

Lactobacillus bulgaricus (Orla-Jensen) Weiss et al (*Lactobacillus delbrueckii* subsp *bulgaricus*)

- 0041 <- CSCC LB-1 (Australia)
- 0053 <- IFO 13953
- 0472 <- ATCC 11842, BRL-109
- 0473 <- CH3R, BRL-110

Lactobacillus casei

- 0090 <- NRRL B-1922
- 0262 <- Mut-19 (Tape ketan, 24-2-1999)
- 0474 <- ATCC 4646, BRL-111

Lactobacillus casei subsp. casei

- 0343 <- Des-27 (Pakasam, 3-2-1999)

Lactobacillus confusus

- 0244 <- Mut-1 (Tape ubi, 24-2-1999)
- 0255 <- Mut-12 (Tape ubi, 24-2-1999)
- 0282 <- Mut-39 (Terasi, 24-2-1999)
- 0284 <- Mut-41 (Asinan buah, 24-2-1999)
- 0285 <- Mut-42 (Tape ketelai, 24-2-1999)
- 0286 <- Mut-43 (Asinan buah, 24-2-1999)

Lactobacillus coryniformis casei

- 0281 <- Mut-38 (Asinan sawi, 24-2-1999)

Lactobacillus curvatus

- 0287 <- Mut-44 (Terasi, 24-2-1999)
- 0475 <- ATCC 25601, BRL-112

Lactobacillus delbrueckii

- 0253 <- Mut-10 (Tempe, 24-2-1999)
- 0259 <- Mut-16 (Gatot, 24-2-1999)
- 0278 <- Mut-35 (Terasi, 24-2-1999)
- 0476 <- ATCC 7830, BRL-113
- 0477 <- BRL-114

Lactobacillus fermentum

- 0322 <- Des-6 (Wadi, 3-2-1999)

Lactobacillus fructosus

0485 <- BRL-122

Lactobacillus leichmanii

0478 <- ATCC 7497, BRL-115

Lactobacillus murinus Hemme et al.

0115 <- TTE-3 (Djaafar, 1994, tempe)

0245 <- Mut-2 (Gatot, 24-2-1999)

Lactobacillus non DAP

0355 <- Edi-1 (Peda, 3-4-1999)

0366 <- Edi-18 (Peda, 3-4-1999)

0369 <- Edi-21 (Peda, 3-4-1999)

0372 <- Edi-24 (Peda, 3-4-1999)

0374 <- Edi-26 (Peda, 3-4-1999)

0376 <- Edi-28 (Terasi, 3-4-1999)

Lactobacillus paramesenteroides

0302 <- Ais-15 (Chicken sausage, 20-3-1999)

Lactobacillus plantarum (Orla Jensen) Bergey et al

0020 <- IFO 3074 (as *Lactobacillus cucumeris*)

0026 <- CCRC 10069 (Type strain)

0027 <- CCRC 12251

0136 <- JCM 8344

0137 <- JCM 8347

0265 <- Mut-22 (Growol, 24-2-1999)

0270 <- Mut-27 (Growol, 24-2-1999)

0271 <- Mut-28 (Asinan sawi, 24-2-1999)

0301 <- Ais-14 (Chicken sausage, 20-3-1999)

0303 <- Ais-16 (Chicken sausage, 20-3-1999)

0304 <- Ais-17 (Chicken sausage, 20-3-1999)

0337 <- Des-21 (Pakasam, 3-2-1999)

0344 <- Des-28 (Wadi, 3-2-1999)

0363 <- Edi-12 (Terasi, 5-9-1998)

0364 <- Edi-14 (Terasi, 3-4-1999)

Lactobacillus plantarum subsp. plantarum

0461 <- Dad-13 (Dadih, 2-10-2001)

Lactobacillus plantarum*

0210 <- T-1 (Asinan rebung, 3-2-1999)

0212 <- T-3 (Growol, 3-2-1999)

0214 <- T-5 (Tempe, 3-2-1999)

0217 <- T-9 (Moromi, 3-2-1999)

0221 <- T-13 (Grool, 3-2-1999)

0226 <- T-18 (Tape, 3-2-1999)

0236 <- T-32 (Gatot, 3-2-1999)

0237 <- T-33 (Asinan terong, 3-2-1999)
0242 <- T-81 (Tempoyak, 3-2-1999)

Lactobacillus plantarum-pentosus

0247 <- Mut-4 (Asinan sawi, 24-2-1999)
0249 <- Mut-6 (Tape ubi, 24-2-1999)
0250 <- Mut-7 (Gatot, 24-2-1999)
0261 <- Mut-18 (Tape ketan, 24-2-1999)
0264 <- Mut-21 (Asinan sawi, 24-2-1999)
0277 <- Mut-34 (Terasi, 24-2-1999)
0329 <- Des-13 (Mandai nangka, 3-2-1999)
0330 <- Des-14 (Mandai nangka, 3-2-1999)
0331 <- Des-15 (Mandai nangka, 3-2-1999)
0332 <- Des-16 (Mandai nangka, 3-2-1999)
0334 <- Des-18 (Pakasam, 3-2-1999)
0336 <- Des-20 (Pakasam, 3-2-1999)
0339 <- Des-23 (Pakasam, 3-2-1999)
0340 <- Des-24 (Pakasam, 3-2-1999)
0342 <- Des-26 (Pakasam, 3-2-1999)
0345 <- Des-29 (Wadi, 3-2-1999)
0346 <- Des-30 (Mandai cempedak, 3-2-1999)
0351 <- Des-35 (Mandai cempedak, 3-2-1999)
0352 <- Des-36 (Mandai cempedak, 3-2-1999)
0353 <- Des-37 (Mandai cempedak, 3-2-1999)
0354 <- Des-38 (Mandai cempedak, 3-2-1999)
0373 <- Edi-25 (Peda, 5-8-1998)

Lactobacillus plantarum-pentosus complex

0211 <- T-2 (Moromi, 3-2-1999)
0213 <- T-4 (Tempoyak, 3-2-1999)
0215 <- T-6 (Tape, 3-2-1999)
0216 <- T-7 (Growol, 3-2-1999)
0218 <- T-10 (Tempe, 3-2-1999)
0219 <- T-11 (Growol, 3-2-1999)
0220 <- T-12 (Growol, 3-2-1999)
0222 <- T-14 (Tempe, 3-2-1999)
0223 <- T-15 (Tape, 3-2-1999)
0224 <- T-16 (Growol, 3-2-1999)
0225 <- T-17 (Growol, 3-2-1999)
0227 <- T-19 (Asinan rebung, 3-2-1999)
0228 <- T-20 (Asinan rebung, 3-2-1999)
0229 <- T-21 (Moromi, 3-2-1999)
0231 <- T-23 (Coconut sap, 3-2-1999)
0232 <- T-24 (Coconut sap, 3-2-1999)
0235 <- T-31 (Gatot, 3-2-1999)
0238 <- T-34 (Gatot, 3-2-1999)
0239 <- T-33 (Asinan terong, 3-2-1999)
0240 <- T-34 (Moromi, 3-2-1999)
0241 <- T-35 (Asinan terong, 3-2-1999)

Lactobacillus rhamnosus Collins et al. (*Lactobacillus casei* subsp. *rhamnosus*)

- 0052 <- IFO 3425
- 0098 <- TGR-1 (Djaafar, 1994, fermented cassava-growol)
- 0099 <- TGR-2 (Djaafar, 1994, fermented cassava-growol, produces bacteriocin)
- 0100 <- TGR-21 (Djaafar, 1994, fermented cassava-growol)
- 0101 <- TGR-22 (Djaafar, 1994, fermented cassava-growol)
- 0105 <- TTK-1 (Djaafar, 1994, fermented dunian meat-tempoyak)
- 0113 <- TTE-1 (Djaafar, 1994, tempe)
- 0114 <- TTE-2 (Djaafar, 1994, tempe)

Lactobacillus sake

- 0246 <- Mut-3 (Tempe, 24-2-1999)
- 0248 <- Mut-5 (Growol, 24-2-1999)
- 0252 <- Mut-9 (Ragi tempe, 24-2-1999)
- 0256 <- Mut-13 (Gatot, 24-2-1999)
- 0260 <- Mut-17 (Growol, 24-2-1999)
- 0266 <- Mut-23 (Tape ketan, 24-2-1999)
- 0268 <- Mut-25 (Asinan buah, 24-2-1999)
- 0269 <- Mut-26 (Tape ubi, 24-2-1999)
- 0280 <- Mut-37 (Asina buah, 24-2-1999)
- 0283 <- Mut-40 (Asinan sawi, 24-2-1999)
- 0296 <- Ais-9 (Beef sausage, 20-3-1999)
- 0335 <- Des-19 (Pakasam, 3-2-1999)
- 0338 <- Des-22 (Pakasam, 3-2-1999)
- 0479 <- ATCC 15521, BRL-116
- 0480 <- BRL-117

Lactobacillus sake* / *Lactobacillus murinus

- 0291 <- Ais-4 (Beef sausage, 20-3-1999)
- 0294 <- Ais-7 (Beef sausage, 20-3-1999)
- 0300 <- Ais-13 (Chicken sausage, 20-3-1999)
- 0305 <- Ais-18 (Chicken sausage, 20-3-1999)

Lactobacillus salvarius

- 0481 <- ATCC 11741, BRL-118

Lactobacillus sp.

- 0341 <- Des-25 (Pakasam, 3-2-1999)
- 0350 <- Des-34 (Mandai cempedak, 3-2-1999)

Lactobacillus viridescens

- 0482 <- ATCC 12706, BRL-119

Lactobacillus delbrueckii* subsp. *delbrueckii subsp. *delbrueckii* (Leichmann) Beijerinck

- 0045 <- IFO 3202

Lactobacillus plantarum (Orla Jensen) Bergey et al

- 0127 <- JCM 1551

Lactococcus lactis subsp. lactis (Lister) Schleifer et al.

- 0086 <- IFO 12007, produces nisin
- 0133 <- JCM 5805 (Type strain)

Leuconostoc mesenteroides

- 0233 <- T-25 (Coconut sap, 3-2-1999)
- 0234 <- T-26 (Orange fruit, 29-4-1999)

Leuconostoc mesenteroides subsp. mesenteroides Tsenkovskii van Teighem.

- 0023 <- IFO 12060
- 0092 <- TGA-1 (Djaafar, 1994, fermented dried cassava-gatot)
- 0093 <- TGA-2 (Djaafar, 1994, fermented dried cassava gatot)

Morganella morganii (Winslow et al) Brenner et al

- 0121 <- JD-37 (Atmadjaja, 1994, fish, produces histamin)
- 0122 <- NCTC 10041 (Proteus morganii, produces histamin)

Nitrobacter winogradskyi Winslow et al

- 0054 <- IFO 14297

Nitrosomonas europaea Winogradskyi

- 0055 <- IFO 14298

Nocardia asteroides (Eppinger) Blanchard

- 0067 <- IFO 3384

Nocardia erythropolis

- 0088 <- NRRL B-1532

Nocardia farcinica Trevisan

- 0132 <- JCM 3316

Pediococcus acidilactici Lindner

- 0110 <- TAT-1 (Djaafar 1 994 egg plant pickle)
- 0495 <- F11

Pediococcus damnosus

- 0486 <- BRL-123

Pediococcus dextrinicus

- 0487 <- BRL-124

Pediococcus halophilus Mees

- 0032 <- CCRC 12576
- 0033 <- CCRC 12816

Pediococcus pentosaceus Mees

- 0018 <- IFO 12230 (as *Pediococcus cerevisiae*)
- 0019 <- IFO 12232 (as *Pediococcus cerevisiae*)
- 0046 <- NRRL B-14009

0094 <- TGA 3 (Djaafar, 1994, fermented dried cassava gatot)
0111 <- TAT-2 (Djaafar, 1994, egg plant-pickle)
0119 <- TMO4 (Djaafar, 1994 moromi)
0488 <- BRL-126

Pediococcus urinaeequi

0489 <- BRL-127

Pediococcus pentosaceus

0347 <- Des-31 (Mandai cempedak, 3-2-1999)
0348 <- Des-32 (Mandai cempedak, 3-2-1999)
0349 <- Des-33 (Mandai cempedak, 3-2-1999)

Propionibacterium propionicus (Pine & Georg) Charfreitag et al.

0068 <- IFO 14587 (Type strain)

Pseudomonas aeruginosa (Schroter) Migula

0063 <- IFO 12689

Pseudomonas cepacia Palleroni & Holmes

0069 <- IFO 15124

Pseudomonas fluorescens Migula

0070 <- IFO 13922

Pseudomonas putida (Trevisan) Migula

0071 <- IFO 14796

Rhodococcus equi (Magnusson) Godfellow & Alderson

0064 <- IFO 3730
0124 <- JCM 1311 (Type strain)

Rhodococcus erythropolis (Gray & Thornton) Godfellow & Alderson

0065 <- IFO 12320

Rhodococcus erythropolis (Gray & Thornton) Godfellow & Alderson

0128 <- JCM 3201 (Type strain)

Rhodococcus fascians (Tilford) Goodfellow

0125 <- JCM 1316 (Type strain)

Rhodococcus rhodochrous (Zopf) Tsukamura

0066 <- IFO 3338
0129 <- JCM 3202 (Type strain)

Salmonella choleraesuis subsp. Choleraesuis (Gaerter) Le Minor, Veron and Popoff serovar typhimurium

0050 <- IFO 12529 as *Salmonella typhimurium*
0134 <- JCM 6977 as *Salmonella typhimurium*
0135 <- JCM 6978 as *Salmonella typhimurium*

Staphylococcus aureus Rosenbach

- 0047 <- IFO 13276
- 0140 <- (Harmayani, et al. 1995, raw beef)
- 0141 <- (Harmayani, et al. 1995, fish)
- 0143 <- (Harmayani, et al. 1995, raw chicken meat)
- 0144 <- (Harmayani, et al. 1995, chicken opor)
- 0145 <- (Harmayani, et al. 1995, beef rendang)

Streptococcus

- 0356 <- Edi-4 (Peda, 5-9-1998)
- 0357 <- Edi-6 (Peda, 5-9-1998)
- 0358 <- Edi-7 (Peda, 5-9-1998)
- 0359 <- Edi-8 (Peda, 5-9-1998)
- 0375 <- Edi-27 (Terasi, 5-8-1998)
- 0377 <- Edi-29 (Terasi, 5-8-1998)

Streptococcus refinolactis Orla Jensen and Hansen

- 0112 <- TAT-3 (Djaafar, 1 994, egg plant-pickle)

Streptococcus sp.

- 0288 <- Ais-1 (Fresh beef meat, 20-3-1999)
- 0289 <- Ais-2 (Fresh beef meat, 20-3-1999)
- 0290 <- Ais-3 (Fresh chicken meat, 20-3-1999)
- 0292 <- Ais-5 (Beef sausage, 20-3-1999)
- 0293 <- Ais-6 (Beef sausage, 20-3-1999)
- 0295 <- Ais-8 (Beef sausage, 20-3-1999)
- 0297 <- Ais-10 (Fresh beef meat, 20-3-1999)
- 0299 <- Ais-12 (Fresh chicken meat, 20-3-1999)
- 0360 <- Edi-9 (Terasi, 5-9-1998)
- 0361 <- Edi-10 (Terasi, 5-9-1998)
- 0362 <- Edi-11 (Terasi, 5-9-1998)
- 0365 <- Edi-17 (Terasi, 5-8-1998)
- 0367 <- Edi-19 (Peda, 5-8-1998)
- 0368 <- Edi-20 (Peda, 5-8-1998)
- 0370 <- Edi-22 (Peda, 5-8-1998)
- 0371 <- Edi-23 (Peda, 5-8-1998)

Streptococcus thermophilus

- 0251 <- Mut-8 (Tempe, 24-2-1999)
- 0257 <- Mut-14 (Ragi tape, 24-2-1999)
- 0258 <- Mut-15 (Ragi tempe, 24-2-1999)
- 0263 <- Mut-20 (Tape ubi, 24-2-1999)
- 0272 <- Mut-29 (Tape ubi, 24-2-1999)
- 0273 <- Mut-30 (Asinan sawi, 24-2-1999)
- 0274 <- Mut-31 (Asinan sawi, 24-2-1999)
- 0276 <- Mut-33 (Ragi tape, 24-2-1999)
- 0279 <- Mut-36 (Ragi tape, 24-2-1999)
- 0317 <- Des-1 (Wadi, 3-2-1999)
- 0318 <- Des-2 (Wadi, 3-2-1999)
- 0319 <- Des-3 (Wadi, 3-2-1999)

0320 <- Des-4 (Wadi, 3-2-1999)
0321 <- Des-5 (Wadi, 3-2-1999)
0323 <- Des-7 (Wadi, 3-2-1999)
0324 <- Des-8 (Wadi, 3-2-1999)
0325 <- Des-9 (Wadi, 3-2-1999)
0326 <- Des-10 (Wadi, 3-2-1999)
0327 <- Des-11 (Wadi, 3-2-1999)
0328 <- Des-12 (Wadi, 3-2-1999)
0333 <- Des-17 (Mandai nangka, 3-2-1999)

Streptococcus thermophilus (Orla-Jensen) Farrow & Collins

0015 <- IFO 13957
0040 <- NRRLB4148

Streptomyces ambofaciens Pinnert Sindico

0073 <- IFO 12836 (Type strain)

Streptomyces olivaceus (Waksman) Waksman & Henrici

0074 <- IFO 3409

Streptomyces olivochromogenes (Waksman) Waksman & Henrici

0075 <- IFO 13873

Streptomyces violascens (Preobrazhens kaya & Sveshnikova) Pridham

0076 <- IFO 12920 (Type strain)

Variovorax paradoxus (Davis) Willems et al

0138 <- IFO 15149 (Type train)

Xanthomonas campetris

0089 <- NRRL B-1459A

Zymomonas mobilis subsp. mobilis (Lindner) De Ley & Swings

0056 <- IFO 13756

YEAST

Candida curvata (biddens & Lodder) Lodder & Kreger-van Rij.
3001 <-

Candida kefyr (Beijerinck) van Uden & Buckle
3035 <- JCM 1617

Candida lipolytica (Wickerham et al.) van der Walt & von Arx
3010 <- NRRL Y-1095 (as *Yarrowia lipolytica*)

Candida norvegensis Dietrichson ex van Uden & Buckley
3043 <- JCM 2307 (Type strain)

Candida tropicalis (Castellani) Berkhout
3023 <- IFO 1400
3033 <- JCM 1541 (Type strain)

Candida utilis (Herineberg) Lodder & Kreger-van Rij
3019 <- IFO 0396

Candida utilis (Herineberg) Lodder & Kreger-van Rij
3036 <- JCM 1624

Candida wicherhamii
3055 <- JCM 9568

Candida?krusei (Castellani) Langeron & Guerra
3034 <- JCM 1609 (Type strain)

Cryptococcus curvatum (Diddens & Lodder) Golubev
3032 <- JCM 1 532 (Type strain)

Debaryomyces hansenii var. *hansenii*
3040 <- JCM 1990 (Type strain)

Debaryomyces polymorphus (Klocker) Price & Phaff
3037 <- JCM 1628

Geotrichum candidum Butler & Petersen
3009 <- NRRL Y-552 (as *Endomyces geotrichum*)

Kluyveromyces lactis (Dombrowski) van der Walt
3024 <- IFO 0433
3025 <- IFO 1090

Kluyveromyces marxianus (Hansen) van der Walt
3011 <- IFO 10005
3038 <- JCM 1630

3061 <- NCYC 0587
?3062 <- ATCC 10022

Kluyveromyces thermotolerans (Philippov) Yarrow
3028 <- IFO 10067

Kluyveromyces?marxianus (Hansen) van der Walt
3026 <- IFO 1735

Kockovaella thailandica Nakase et al.
?3029 <- IFO 10521

Lipomyces starkeyi Lodder & Kreger-van Rij
3048 <- JCM 5995 (Type strain)

Pichia burtonii Boidin, Pignal, Lehodey, Vey & Abadie
3045 <- JCM 3708 (Type strain)

Pichia guilliermondii Wickerham
3041 <- JCM 2190

Pichia ohmeri (Etchells & Bell) Kreger-van Rij
3042 <- JCM 2280

Rhodosporidium toruloides Banno
3046 <- JCM 3792 (Type strain)

Rhodotorula glutinis (Fresenius) Harrison
3053 <- JCM 8208 (Type strain)

Saccharomyces bayanus Saccardo
3018 <- IFO 0251

Saccharomyces carlbergensis
3059 <- NCYC 0355

Saccharomyces cerevisiae Meyen ex Hansen
3004 <- wine yeast
3005 <- brewing yeast
3012 <- # 254 (Red star), fuel ethanol (John Labatt, Ltd.)
3014 <- # 3 Ale brewing yeast, non-flocculent (John Labatt, Ltd.)
3015 <- # 30 Ale brewing yeast, flocculent (John Labatt, Ltd.)
3022 <- NRRL Y-2034
3049 <- JCM 7255 (Type strain)
3056 <- JCM 2214
3057 <- JCM 2215
3058 <- JCM 5918
3060 <- FSCC 0211

Saccharomyces diastaticus Andrews et Gilliland ex van der Walt
3013 <- # 62 Polyploid (John Labatt Ltd)

Saccharomyces kluyvery Phaff, Miller & Shifrine
3051 <- JCM 7257 (Type strain)

Saccharomyces pastorianus Hansen
3050 <- JCM 7256

Saccharomyces uvarum (caribergensis)
3003 <- Brewing yeast
3016 <- # 27 Larger brewing yeast, non-flocculent (John Labatt, Ltd.)
3017 <- # 15 Larger brewing yeast, flocculent, (John Labatt, Ltd.)

Saccharomycopsis fibuligera (Lindner) Klockner
3021 <- NRRL Y-1062
3052 <- JCM 7609 (Type strain)

Saccharomycopsis fibuligera (Lindner) Klockner
3020 <- IFO 1711
3027 <- N-4 (Indrati & Rahayu, 1994, ragi tape, curdled milk)

Schizosaccharomyces pombe Lindner
3054 <- JCM 8274 (Type strain)

Trichosporon cutaneum (de Beurmann, Gougerot & Vaucher) Ota
3030 <- JCM 1462 (Type strain)

Williopsis saturnus (Klockner) Zender
3044 <- JCM 3624 (Type strain)

Yarrowia lipolytica (Wickerham, Kurtzman & Herman) van der Walt & von Arx
3039 <- JCM 1694

Zygosaccharomyces rouxii (Boutroux) Yarrow
3007 <- IFO 0505 (as *Zygosaccharomyces soya* strain Kikkoman)
3008 <- IFO 1877 (as *Saccharomyces rouxii*, miso paste)
3047 <- JCM 5924

Zygosaccharomyces rouxii? (Boutroux) Yarrow
3006 <- as *Saccharomyces rouxii*, Boutroux

FUNGI

Absidia corymbifera (Cohn) Saccardo & Trotter

6021 <- FRR 3957

6022 <- FRR 4122

Alternaria alternata (Fries) Keissler

6023 <- FRR 3779

6024 <- FRR 4004

Aspergillus awamori Nakaz

6171 <- X-2-RS-1 a (Seprantu)

Aspergillus candidus Link

6026 <- FRR 3974

6106 <- (Sardjono, et al., 1992 rice)

6134 <- BJ1 (Utami, et al., 1995, geplak)

6135 <- IIH3 1 (Utami, et al., 1995, geplak)

Aspergillus flavus Link ex Fries

6002 <-

6107 <- (Sardjono, et al., 1992, rice)

6109 <- (Sardjono, et al., 1992, peanut)

6122 <- WD 3 (Dinihari, et al., 1995, dahlia roots)

6133 <- 3 (Utami, et al., 1995, geplak)

6146 <- R-7 (Indrati, et al., 1995, koji, Bantul)

6147 <- R-8 (Indrati, et al., 1995, koji, Bantul)

6148 <- R-9 (Indrati, et al., 1995, koji, Bantul)

6177 <- XXII C5 (Sardjono et al., 1994, corn)

6181 <- XXII SB1-5 (Sardjono et al., 1994, soybean)

6183 <- I C02 3 (Sardjono et al., 1994 corn)

6184 <- XXII MB1 (Sardjono et al., 1994, mungbean)

Aspergillus fumigatus Fresenius

6120 <- WD-1 (Dinihari, et al., 1995, dahlia roots)

6121 <- WD-2 (Dinihari, et al., 1995, dahlia roots)

6123 <- WD-4 (Dinihari, et al., 1995, dahlia roots)

6127 <- WD-8 (Dinihari, et al., 1995, dahlia roots)

6166 <- PBi-1-RS-1 (Kedhawung)

Aspergillus niger van Tieghem

6030 <- FRR 3802

?6089 <- IFO 6342

6096 <- IFO 6661

6114 <- Cei IFO 31125

6172 <- CB2MS1 (Sardjono et al., 1994, tholo bean)

6174 <- (Sardjono et al., 1994, spices)

Aspergillus niveus Blochwitz

6185 <- I PP3-4 (Sardjono et al., 1994, pepper)

Aspergillus oryzae (Ahlburg) Cohn

- 6142 <- R-3 (Indrati, et al., 1995, koji, Bantul)
- 6151 <- 18-12 (R) (Indrati, et al., 1995, koji, Bantul)
- 6156 <- Ao-Jpn (Koji-Japan)

Aspergillus parasiticus Speare

- 6033 <- FRR 2774
- 6034 <- FRR 2752

Aspergillus perasiticus Speare

- 6165 <- EA-2-RS-1 a (Kembang Ceplik)

Aspergillus puniceus Kwon-Chung & Fennel

- 6179 <- I CO3-5 (Sardjono et al., 1994, corn)

Aspergillus sojae Sakaguchi & Yamada

- 6168 <- 4-14

Aspergillus sojee Sakaguchi & Yamada

- 6007 <-

Aspergillus tamaris Kita

- 6038 <- FRR 4065
- 6153 <- 18-18 (B) (Indrati, et al., 1995, koji, Bantul)
- 6167 <- 17-35
- 6175 <- XXII SB8-6 ((Sardjono et al., 1994, soybean)
- 6186 <- XXII SB-8 (Sardjono et al., 1994, soybean)

Aspergillus tameris Kita

- 6176 <- I PP3-11 (Sardjono et al., 1994, pepper)
- 6178 <- XXII SB3-4 (Sardjono et al., 1994, soybean)
- 6180 <- I PP3-12 (Sardjono et al., 1994, pepper)

Aspergillus terreus Thom

- 6039 <- FRR 3989
- 6040 <- FRR4019
- 6125 <- WD-6 (Dinihari, et al., 1995, dahlia roots)
- 6126 <- WD-7 (Dinihari, et al., 1995, dahlia roots)

Aspergillus versicolor (Vuillemin) Tiraboschi

- 6041 <- FRR 3951
- 6042 <- FRR 3959

Aspergillus japonicus var. acufeatus (Saito) Nakazawa

- 6029 <- FRR 4091

Aspergillus niger van Tieghem

- 6018 <- NRRL A-11, 264

Aspergillus oryzae (Ahlburg) Cohn
6004 <- NRRL 1989

Aspergillus restrictus G. Smith
6036 <- FRR 2973

Aspergillus tamaris Kita
6108 <- (Sardjono, et al., 1992, peanut)

Aspergillus terreus Thom
6188 <- XXII C02-1 (Sardjono et al., 1994, corn)

Curvularia lunata Nelson & Haasis
6048 <- FRR 4103

Curvularia lunata Nelson & Haasis
6047 <- FRR 4061

Eurotium amstelodami L. Mangin
6187 <- XXII SB14-1 (Sardjono et al., 1994, soybean)

Eurotium chevalieri L. Mangin
6049 <- FRR 3954
6132 <- IIH3-1 (Utami, et al., 1995, geplak)

Eurotium chevalleri L. Mangin
6050 <- FRR 4021

Eurotium rubrum Konig et al
6051 <- FRR 3058
6052 <- FRR 3953

Geomyces pannorum var. pannorum (Link) Sigler & Carmichael
6093 <- IFO 32033

Monascus purpureus Went
6008 <- NRRL2897, Used for making angkak

Mucor plumbeus van Tieghem
6061 <- FRR 4095
6062 <- FRR 4906

Neurospora sitophila Shear & Dodge
6101 <- IFO 4596

Penicillium pinophilum Hedgecock apud Thom
6016 <- CCRC 31558, Used for production of dextranase

Penicillium camembertii Thom
6117 <- NRRL 875

Penicillium citrinum Thom

- 6066 <- FRR 2759
- 6110 <- (Sardjono, et al., 1992, rice)
- 6111 <- (Sardjono, et al., 1992, rice)
- 6112 <- (Sardjono, et al., 1992, peanut)
- 6113 <- (Sardjono, et al., 1992, soybean)

Penicillium crustosum Thom

- 6064 <- FRR 4149
- 6065 <- FRR 4165

Penicillium funiculosum Thom

- 6017 <- CCRC 30438, Used for dextranase production
- 6068 <- FRR 3684
- 6069 <- FRR 4000
- 6140 <- PIH1 (Utami, et al., 1995, geplak)

Penicillium glabrum (Wehmer) Westling

- 6070 <- FRR 3190
- 6071 <- FRR 3210

Penicillium oxalicum Currie & Thom

- 6072 <- FRR 4141

Penicillium pinophilum Hedgecock apud Thom

- 6074 <- FAR 3685
- 6075 <- FRR 4009

Penicillium purpurogenum Stoll

- 6090 <- IFO 5688

Penicillium roqueforti Thom

- 6019 <- NRRL 3360

Penidiilum roqueforti Thom

- 6015 <- IFO 4622 (T. Hasegawa, roquefort cheese).

Rhizomucor miehei (Cooriey & Emerson) Schipper

- 6102 <- IFO 9740
- 6103 <- IFO 9741

Rhizomucor pusillus (Lindt) Schipper

- 6104 <- IFO 4578

Rhizopus microsporus* var. *rhizopodiformis van Thihem

- 6076 <- FRR 4050
- 6077 <- FRR 4121

Rhizopus oligosporus Saito

- 6010 <- NRRL 2710

Rhizopus oryzae Went & Prinsen Geerlings

6011 <-

6157 <- Ro-Jpn (Koji-Japan)

Syncephalastrum racemosum (Cohn) Schroter

6080 <- FRR 4124

6081 <- FRR 4125

Trichoderma reesei Simmons

6012 <- NRRL 3653 Used for the sacharification cellulose from jerami

Trichoderma viride Persoon & Fries

6013 <- Used for sacharification cellulose from jerami

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6081 - *Syncephalastrum racemosum*

6089 - *Aspergillus niger*

6090 - *Penicillium purpurogenum*

6093 - *Geomyces pannorum* var. *pannorum*

6096 - *Aspergillus niger*

6101 - *Neurospora sitophila*

6102 - *Rhizomucor miehei*

6103 - *Rhizomucor miehei*

6104 - *Rhizomucor pusillus*

6106 - *Aspergillus candidus*

6107 - *Aspergillus flavus*

6108 - *Aspergillus tamaris*

6109 - *Aspergillus flavus*

6110 - *Penicillium citrinum*

6111 - *Penicillium citrinum*

6112 - *Penicillium citrinum*

6113 - *Penicillium citrinum*

6114 - *Aspergillus niger*

6117 - *Penicillium camembertii*

6120 - *Aspergillus fumigatus*

6121 - *Aspergillus fumigatus*

6122 - *Aspergillus flavus*

6123 - *Aspergillus fumigatus*

6125 - *Aspergillus terreus*

6126 - *Aspergillus terreus*

6127 - *Aspergillus fumigatus*

6132 - *Eurotium chevalieri*

6133 - *Aspergillus flavus*

6134 - *Aspergillus candidus*

6135 - *Aspergillus candidus*

6140 - *Penicillium funiculosum*

6142 - *Aspergillus oryzae*

6146 - *Aspergillus flavus*
6147 - *Aspergillus flavus*
6148 - *Aspergillus flavus*

6151 - *Aspergillus oryzae*
6153 - *Aspergillus tamaraii*
6156 - *Aspergillus oryzae*
6157 - *Rhizopus oryzae*

6165 - *Aspergillus perasiticus*
6166 - *Aspergillus fumigatus*
6167 - *Aspergillus tamaraii*
6168 - *Aspergillus sojae*

6171 - *Aspergillus awamori*
6172 - *Aspergillus niger*
6174 - *Aspergillus niger*
6175 - *Aspergillus tamaraii*
6176 - *Aspergillus tamerii*
6177 - *Aspergillus flavus*
6178 - *Aspergillus tamerii*
6179 - *Aspergillus puniceus*

6180 - *Aspergillus tamerii*
6181 - *Aspergillus flavus*
6183 - *Aspergillus flavus*
6184 - *Aspergillus flavus*
6185 - *Aspergillus niveus*
6186 - *Aspergillus tamaraii*
6187 - *Eurotium amstelodami*
6188 - *Aspergius terreus*