



**Recovery times of Microorganisms after storage in CRY-O-BACT.
Microorganisms Stored at -20°C**

Bacteria/Yeast/Fungi	Longest Successful Storage Time (Months)
Achromobacter xylosoxidans	12
Acinetobacter calcoaceticus	132
Acinetobacter iwoffii	12
Aeromonas hydrophila	24
Alcaligenes faecalis	10
Arthrobacter aurescens	12
Aspergillus niger	15
Bacillus subtilis	36
Bacillus cereus	60
Bacillus lichiformis	60
Bacteroides fragilis	12
Bordetella bronchiseptica	10
Burkholderia capacia	24
Campylobacter jejuni	UT
Campylobacter coli	UT
Candida albicans	24
Candida geochares	12
Candida glabrata	12
Candida keyfr	12
Candida krusei	12
Candida spp.	72
Citrobacter freundii	36
Citrobacter koseri	24
Clostridium spp.	24
Clostridium bifermentans	36
Clostridium difficile	24
Clostridium perfringens	24
Clostridium sordelli	36
Clostridium sporogenes	24
Coagulase negative staphylococcus	24
Corynebacterium diptheriae (nps)	24
Corynebacterium spp.	24
Corynebacterium minutissimum	24
Enterobacter aerogenes	48
Enterobacter cloacae	48
Enterobacter sakazakii	48
Erwinia spp.	24
Escherichia coli	120
Escherichia coli O157 (nps)	48
Escherichia coli ATCC8739	120
Enterobacter cloacae	24
Enterococcus spp.	12
Enterococcus faecalis	24
Flavobacterium psychrophilum	12
Fusobacterium nucleatum	12
Geobacillus stearothermophilus	12
Haemophilus influenzae	24
Hafnia alvei	24
Klebsiella aerogenes	36

Cont'd



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Bacteria/Yeast/Fungi	Longest Successful Storage Time (Months)
Klebsiella pneumoniae	24
Lactobacillus brevis	24
Lactobacillus casei	120
Lactobacillus fermentum	120
Lactobacillus jensenii	120
Lactobacillus piscicola	2
Lactobacillus plantarum	12
Legionella pneumophila	4
Leuconostoc mesenteroides	144
Listeria innocua	24
Listeria ivanovii	24
Listeria monocytogenes	24
Listeria seeligeri	24
Listeria grayi	24
Micrococcus luteus	36
Micrococcus diversus	15
Moellerella wisconsinensis	12
Morganella morganii	24
MRSA NCTC 11940	48
MRSA 12493	48
MRSA (wild strains)	48
Mycobacterium phlei	36
Neisseria gonorrhoeae	12
Neisseria meningitidis	12
Nocardia asteroides	12
Ochrobacterium anthropi	12
Paenibacillus polymyxa ATCC 842	12
Pasturella aerogenes	8
Pasteurella pneumotropica	7
Penicillium aurantiogriseum	24
Penicillium notatum	24
Peptostreptococcus anaerobius	12
Prevotella melaninogicus	24
Propionibacterium acnes.	15
Proteus mirabilis	36
Proteus vulgaris	36
Providencia stuartii ATCC 33672	12
Pseudomonas aeruginosa	108
Pseudomonas fluorescens	24
Pseudomonas putida	24
Renibacterium salmoninarum	12
Rhizopus stolonifer	12
Rhodococcus equi	24
Rhodotrula glutinus	12
Saccharomyces cerevisiae	12
Salmonella dublin	48
Salmonella enteritidis	48
Salmonella gallarum	24
Salmonella hadar	24
Salmonella spp. (wild)	24
Salmonella panama	30

Cont'd



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<u>Bacteria/Yeast/Fungi</u>	<u>Longest Successful Storage Time (Months)</u>
Salmonella seftenburg	36
Salmonella typhimurium	36
Salmonella virchow	24
Serratia marcescens	132
Serratia spp.	24
Shigella sonnei	36
Shigella flexneri	24
Staphylococcus spp.	72
Staphylococcus aureus	24
Staphylococcus epidermidis	36
Stenotrophomonas maltophilia	24
Streptococcus agalactiae	10
Streptococcus spp.	24
Streptococcus spp. (Beta haemolytic) Grp B	12
Streptococcus spp. (Beta haemolytic) Grp C	12
Streptococcus avium	10
Streptococcus bovis	10
Streptococcus equisimilis	120
Streptococcus pneumoniae	12
Streptococcus pyogenes	36
Streptococcus salivarius	132
Streptococcus mitis	120
Streptococcus pyogenes	36
Streptococcus rattus	132
Streptococcus sanguis	132
Streptococcus sobrinus	132
Streptococcus thermophilus	120
Streptococcus viridans	9
Trichophyton spp.	12
Xanthomonas campestris	12
Xanthomonas maltophilia	12
Vibrio cholerae (nps)	10
Vibrio parahaemolyticus	6
Yersinia ruckeri	24
Yersinia enterocolitica	24

The accuracy of this database relies on information supplied to Nutri-Bact by the existing users of the CRY-O-BACT System.



**Recovery times of Microorganisms after storage in CRY-O-BACT.
Microorganisms Stored at -70°C**

Bacteria/Yeast/Fungi	Longest Successful Storage Time (Months)
Actinobacillus pleuropneumoniae	132
Acinetobacter spp.	36
Actinobacillus actinomycetemcomitans	72
Actinomyces israelii	72
Actinomyces naeslundii	72
Actinomyces odontolyticus	72
Actinomyces meyeri	60
Aerococcus viridans	60
Aeromonas hydrophila	84
Aeromonas salmonicida	84
Bacillus amyloliquefaciens	36
Bacillus aneurinilyticus	72
Bacillus cereus	60
Bacillus stearothermophilus	72
Bacillus subtilis NCTC 100	24
Bacteroides fragilis	24
Bordetella pertussis	6
Campylobacter jejuni	12
Candida albicans	60
Candida krusei	60
Candida spp.	72
Citrobacter freundii	60
Clostridium perfringens	72
Clostridium sporogenes NCTC 532	6
Coagulase negative staphylococcus	24
Corynebacterium bovis	36
Corynebacterium diphtheriae	12
Deinococcus radiophilus	60
Escherichia coli C600	120
Escherichia coli XL1 blue MRF	48
Enterococcus spp.	36
Enterobacter aerogenes	60
Enterobacter cloacae	60
Enterobacter taylorae	60
Enterococcus faecalis	60
Enterococcus faecium	24
Escherichia coli	84
Escherichia coli O157	12
Eubacterium spp.	72
Fusobacterium nucleatum	12
Helicobacter pylori	36
Haemophilus aphrophilus	72
Haemophilus influenzae	72
Haemophilus somnus	96
Klebsiella pneumonia	24
Lactobacillus spp.	72
Legionella pneumophila	6
Listeria grayi	60
Listeria innocua	60

Cont'd



**Recovery times of Microorganisms after storage in CRY-O-BACT.
Microorganisms Stored at -70°C**

Bacteria/Yeast/Fungi	Longest Successful Storage Time (Months)
Listeria ivanovii	60
Listeria monocytogenes	60
Moraxella spp.	36
Mycoplasma spp.	60
Neisseria gonorrhoeae	24
Neisseria meningitidis (meningococcus)	60
Ornithobacterium rhinotracheale	60
Pasteurella gallinarum	108
Pasteurella haemolytica	96
Pasteurella multocida	120
Pasteurella spp.	24
Porphyromonas gingivalis	60
Porphyromonas intermedius	60
Pneumococcus spp.	48
Prophyromonas melaninogenicus	72
Proteus mirabilis	60
Proteus vulgaris	60
Pseudomonas aeruginosa	60
Pseudomonas putida	60
Rhodococcus equi	24
Riemerella anatipestifer	60
Salmonella arizonae	60
Salmonella enteritidis	120
Salmonella hadar	60
Salmonella infantis	60
Salmonella Poona	12
Salmonella seftenburg	48
Salmonella spp.	120
Salmonella typhimurium	60
Serratia marcescens	60
Shigella sonnei	24
Staphylococcus spp.	72
Staphylococcus aureus	84
Staphylococcus aureus NCTC 7447	12
Staphylococcus epidermidis	24
Staphylococcus hyicus	36
Streptococcus agalactiae	24
Streptococcus spp. (anaerobic)	60
Streptococcus suis	120
Streptococcus pyogenes	24
Streptococci (X,B and 2)	72
Streptococcus bovis 11	60
Streptococcus faecalis	60
Streptococcus group A	24
Streptococcus group G	24
Streptococcus milleri	60
Streptococcus mutans	60
Streptococcus pneumoniae	48
Streptococcus pyogenes	36
Streptococcus sanguis	24
Streptococcus salivarius	24

Cont'd



**Recovery times of Microorganisms after storage in CRY-O-BACT.
Microorganisms Stored at -70°C**

Bacteria/Yeast/Fungi	Longest Successful Storage Time (Months)
Veillonella spp.	72
Vibrio spp. (Marine isolates)	84
Vibrio parahaemolyticus	6
Yersinia enterocolitica	108

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**Recovery times of Microorganisms after storage in CRY-O-BACT.
Microorganisms Stored at -80°C**

Bacteria/Yeast/Fungi	Longest Successful Storage Time (Months)
Actinomyces pyogenes	68
Aeromonas hydrophila	5
Aspergillus fumigatus	24
Campylobacter jejuni	69
Campylobacter spp.	24
Candida albicans	70
Cryptococcus spp.	72
Enterococcus faecalis	12
Epidermophyton floccosum	15
Erwinia spp.	120
Erysipelothrix rhusiopathiae	67
Escherichia coli	30
Escherichia hermanii	30
Fonsecaea pedrosoi	15
Fusarium oxysporum	15
Haemophilus influenzae	30
Klebsiella pneumoniae	70
Klebsiella spp.	12
Lactobacillus spp.	14
Legionella spp.	30
Microsporum canis	67
Microsporum gypseum	68
Methicillin Resistant Staphylococcus aureus (MRSA)	24
Pasteurella multocida	63
Pasteurella spp.	62
Pseudomonas spp.	120
Rhodococcus equi	70
Salmonella enteritidis	69
Staphylococcus aureus	30
Streptococcus spp.	30
Streptococcus equi	67
Trichophyton rubrum	15
Trichosporon rubrum	24
Xanthomonas spp.	120
Yersinia pseudotuberculosis	67

The accuracy of this database relies on information supplied to Nutri-Bact by the existing users of the CRY-O-BACT System.

Key

UT – Under test and will be updated once full results are known.

nps – Non pathogenic (attenuated) strain used.

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