

BioBall® contains a precise number of microorganisms in a water soluble ball delivering unprecedented accuracy for Quantitative Microbiological Quality Control.

SingleShot - mean of between 28 and 33 cfu with a standard deviation of 3 cfu or less (unless otherwise stated).

MultiShot 550 - mean of between 500 and 600 cfu with a standard deviation $\leq 10\%$ of the mean (unless otherwise stated).

HighDose 10K - mean of between 8,000 and 12,000 cfu with a standard deviation of $\leq 15\%$ of the mean.

MultiShot 10E8 - mean of between 0.7 and 1.5×10^8 with a standard deviation of $\leq 20\%$ of the mean.

BioBall is a Reference Material manufactured under accreditation to ISO Guide 34.

BioBall™

SingleShot

Reference 20 vials/ 20 tests	Reference 10 vials/ 10 tests	Organism	BioBall Strain	Corresponding Strains	Cell Type	Shelf life from date of manufacture [^]
56022	N/A	<i>Aspergillus brasiliensis</i> ***	NCPF 2275	CIP1431-83, IMI149007, NBRC9455, WDCM00053	Spore	2 Years
56023	N/A	<i>Bacillus cereus</i>	NCTC 7464	NCIMB8579, NRRL569	Spore	2 Years
56024	N/A	<i>Bacillus subtilis</i> subsp. <i>spizizenii</i>	NCTC 10400	CIP52.62, NCIMB8054, NBRC3134	Spore	2 Years
N/A	414301	<i>Burkholderia cepacia</i> *	NCTC 10743	DSM7288	Cell	1 Year
N/A	419829	<i>Burkholderia cepacia</i> *****	NCTC 10743	DSM7288	Starved Cell^^	1 Year
56026	N/A	<i>Candida albicans</i> *	NCPF 3179	CIP48.72, NBRC1594, WDCM00054	Cell	2 Years
56027	N/A	<i>Citrobacter freundii</i> **	NCTC 9750	DSM30039, NBRC12681, CIP57.32	Cell	1 Year
56028	N/A	<i>Clostridium perfringens</i> *	NCTC 8798		Spore	2 Years
56029	N/A	<i>Clostridium sporogenes</i>	NCTC 12935	NBRC14293, NCIMB12343, CIP10051, DSM1446	Spore	2 Years
56030	N/A	<i>Enterobacter aerogenes</i>	NCTC 10006	DSM30053, CDC819-56	Cell	2 Years
56031	N/A	<i>Enterococcus faecalis</i>	NCTC 12697	WDCM00087	Cell	2 Years
56032	N/A	<i>Enterococcus faecalis</i>	NCTC 775	DSM20478, WDCM00009	Cell	2 Years
56035	N/A	<i>Escherichia coli</i> *	NCTC 12241	DSM1103, NCIMB12310, WDCM00013	Cell	2 Years
56034	N/A	<i>Escherichia coli</i>	NCTC 12923	NCIMB8545, CIP53.126, NBRC3972, WDCM00012	Cell	2 Years
56033	N/A	<i>Escherichia coli</i>	NCTC 9001	DSM30083, CIP54.8, WDCM00090	Cell	2 Years
412690	N/A	<i>Kocuria rhizophila</i> ***	NCTC 8340		Cell	2 Years
56038	N/A	<i>Listeria innocua</i>	NCTC 11288	DSM20649, WDCM00017	Cell	2 Years
56039	N/A	<i>Listeria monocytogenes</i>	NCTC 11994	WDCM00019	Cell	2 Years
N/A	418118	<i>Methylobacterium extorquens</i> *****	NBRC 15911		Starved Cell^^	1 Year
421876	N/A	<i>Propionibacterium acnes</i> ***	DSM 1897	CIP 53.117; DSM 1897; JCM 6425; KCTC 3314; NCTC 737	Cell	2 Years
56040	N/A	<i>Pseudomonas aeruginosa</i> *	NCTC 12924	NCIMB8626, CIP82.118, NBRC13275, WDCM00026	Cell	2 Years
56041	N/A	<i>Salmonella abaeituba</i>	NCTC 8244	CDC4905-51	Cell	2 Years
56042	N/A	<i>Salmonella enterica</i> , subsp. <i>enterica</i> , serotype <i>abony</i>	ACM 5080	NCTC 6017, NBRC100797, CIP80.39, DSM4224, WDCM00029	Cell	2 Years
56043	N/A	<i>Salmonella salford</i> ****	IMVS 1710		Cell	2 Years
56044	N/A	<i>Salmonella enterica</i> subsp. <i>enterica</i> , serovtype <i>typhimurium</i>	NCTC 12023	DSM19587, NCIMB13284, WDCM00031	Cell	2 Years
56045	N/A	<i>Staphylococcus aureus</i> **	NCTC 10788	CIP4.83, NCIMB9518, NBRC13276, FDA209, WDCM00032	Cell	2 Years
56092	N/A	<i>Staphylococcus epidermidis</i> **	NCTC 6513		Cell	2 Years
56046	N/A	<i>Streptococcus pyogenes</i>	NCTC 12696	CIP104226	Cell	2 Years

[^]All BioBall strains and Re-Hydration Fluid products are shipped with a minimum of 6 months shelf life remaining.

^{^^}Starvation is performed in sterile purified water at 22 °C for 3 days following the Japanese Pharmacopoeia methodology (reference JP G8 Water 4.4.2 Media Growth Promotion Test).

*Standard deviation < 3.5 , ** Standard deviation < 4 , *** Standard deviation < 4.5 , **** Mean of between 40 and 60 cfu with a standard deviation of 7 cfu or less, ***** Mean of between 67 and 83 cfu with a standard deviation of $\leq 15\%$.

BioBall™

MultiShot-550

Reference 20 vials / 200 tests	Reference 10 vials / 100 tests	Organism	BioBall Strain	Corresponding Strains	Cell Type	Shelf life from date of manufacture [^]
56011	56001	<i>Aspergillus brasiliensis</i>	NCPF 2275	CIP1431.83, IMI149007, NBRC9455, WDCM00053	Spore	2 Years
56012	56002	<i>Bacillus subtilis subsp. spizizenii</i>	NCTC 10400	CIP52.62, NCIMB8054, NBRC3134	Spore	2 Years
N/A	416589	<i>Burkholderia cepacia</i> #	NCTC 10743	DSM7288	Cell	1 Year
56013	56003	<i>Candida albicans</i>	NCPF 3179	CIP48.72, NBRC1594, WDCM00054	Cell	2 Years
56014	56004	<i>Clostridium sporogenes</i>	NCTC 12935	NBRC14293, NCIMB12343, CIP100051, DSM1446	Spore	2 Years
56015	56005	<i>Enterococcus faecalis</i>	NCTC 12697	WDCM00087	Cell	2 Years
56016	56006	<i>Escherichia coli</i>	NCTC 12923	NCIMB8545, CIP53.126, NBRC3972, WDCM00012	Cell	2 Years
N/A	416600	<i>Propionibacterium acnes</i>	DSM 1897	CIP 53.117; DSM 1897; JCM 6425; KCTC 3314; NCTC 737	Cell	2 Years
56017	56007	<i>Pseudomonas aeruginosa</i>	NCTC 12924	NCIMB8626, CIP82.118, NBRC13275, WDCM00026	Cell	2 Years
56018	56008	<i>Salmonella enterica, subsp. enterica, serotype abony</i>	ACM 5080	NCTC 6017, NBRC100797, CIP80.39, DSM4224, WDCM00029	Cell	2 Years
56019	56009	<i>Staphylococcus aureus</i>	NCTC 10788	CIP4.83, NCIMB9518, NBRC13276, FDA209, WDCM00032	Cell	2 Years
56021	N/A	Re-Hydration Fluid				5 Years
410386	N/A	14 Day Re-Hydration Fluid				2 Years

BioBall™

HighDose-10K

Reference 20 vials	Reference 10 vials	Organism	BioBall Strain	Corresponding Strains	Cell Type	Shelf life from date of manufacture [^]
56049	413776	<i>Aspergillus brasiliensis</i>	NCPF 2275	CIP1431.83, IMI149007, NBRC9455, WDCM00053	Spore	2 Years
56143	413777	<i>Bacillus subtilis subsp. spizizenii</i>	NCTC 10400	CIP52.62, NCIMB8054, NBRC3134	Spore	2 Years
56050	413778	<i>Candida albicans</i>	NCPF 3179	CIP48.72, NBRC1594, WDCM00054	Cell	2 Years
56051	413779	<i>Clostridium perfringens</i>	NCTC 8798		Spore	2 Years
56052	56158	<i>Enterobacter aerogenes</i>	NCTC 10006	DSM30053, CDC819-56	Cell	2 Years
56053	56160	<i>Escherichia coli</i>	NCTC 9001	DSM30083, CIP54.8, WDCM00090	Cell	2 Years
56144	413831	<i>Pseudomonas aeruginosa</i>	NCTC 12924	NCIMB8626, CIP82.118, NBRC13275, WDCM00026	Cell	2 Years
56055	56159	<i>Staphylococcus aureus</i>	NCTC 10788	CIP4.83, NCIMB9518, NBRC13276, FDA209, WDCM00032	Cell	2 Years

BioBall™

MultiShot-10E8

Reference 10 vials / 100 tests	Organism	BioBall Strain	Corresponding Strains	Cell Type	Shelf life from date of
410106	<i>Aspergillus brasiliensis</i>	NCPF 2275	CIP1431.83, IMI149007, NBRC9455, WDCM00053	Spore	2 Years
56145	<i>Candida albicans</i>	NCPF 3179	CIP48.72, NBRC1594, WDCM00054	Cell	2 Years
56146	<i>Escherichia coli</i>	NCTC 12923	NCIMB8545, CIP53.126, NBRC3972, WDCM00012	Cell	2 Years
56147	<i>Pseudomonas aeruginosa</i>	NCTC 12924	NCIMB8626, CIP82.118, NBRC13275, WDCM00026	Cell	2 Years
56148	<i>Staphylococcus aureus</i>	NCTC 10788	CIP4.83, NCIMB9518, NBRC13276, FDA209, WDCM00032	Cell	2 Years
418228	<i>Burkholderia cepacia</i>	NCTC 10743	DSM7288	Cell	1 Year
56021	Re-Hydration Fluid				5 Years
416721	<i>Bacillus subtilis</i> ##	ATCC® 19659™	ATCC Licensed Strain	Spore	2 years

[^]All BioBall strains and Re-Hydration Fluid products are shipped with a minimum of 6 months shelf life remaining.

Standard deviation ≤15%

BioBall Mixed Kit Configurations
BioBall SingleShot and BioBall MultiShot 550 mixed kit for Growth Promotion Testing

SingleShot mixed kit - Reference: 412541
 MultiShot 550 mixed kit - Reference: 412540

Quantity of vials	Organism	BioBall strain	Corresponding Strains
2	<i>Aspergillus brasiliensis</i>	NCPF 2275	CIP1431.83, IMI149007, NBRC9455, WDCM00053
2	<i>Bacillus subtilis</i>	NCTC 10400	CIP52.62, NCIMB8054, NBRC3134
2	<i>Candida albicans</i>	NCPF 3179	CIP48.72, NBRC1594, WDCM00054
2	<i>Escherichia coli</i>	NCTC 12923	NCIMB8545, CIP53.126, NBRC3972, WDCM00012
2	<i>Pseudomonas aeruginosa</i>	NCTC 12924	NCIMB8626, CIP82.118, NBRC13275, WDCM00026
2	<i>Staphylococcus aureus</i>	NCTC 10788	CIP4.83, NCIMB9518, NBRC13276, FDA209, WDCM00032

BioBall SingleShot and BioBall MultiShot 550 mixed kit for Sterility Assurance Testing

SingleShot mixed kit - Reference: 412646
 MultiShot 550 mixed kit - Reference: 412647

Quantity of vials	Organism	BioBall strain	Corresponding Strains
2	<i>Aspergillus brasiliensis</i>	NCPF 2275	CIP1431.83, IMI149007, NBRC9455, WDCM00053
2	<i>Bacillus subtilis</i>	NCTC 10400	CIP52.62, NCIMB8054, NBRC3134
2	<i>Candida albicans</i>	NCPF 3179	CIP48.72, NBRC1594, WDCM00054
2	<i>Clostridium sporogenes</i>	NCTC 12935	NBRC14293, NCIMB12343, CIP100651, DSM1446
2	<i>Pseudomonas aeruginosa</i>	NCTC 12924	NCIMB8626, CIP82.118, NBRC13275, WDCM00026
2	<i>Staphylococcus aureus</i>	NCTC 10788	CIP4.83, NCIMB9518, NBRC13276, FDA209, WDCM00032

BioBall MultiShot 10E8 mixed kit for Antimicrobial Effectiveness Testing

Reference: 56150

Quantity of vials	Organism	BioBall strain	Corresponding Strains
2	<i>Aspergillus brasiliensis</i>	NCPF 2275	CIP1431.83, IMI149007, NBRC9455, WDCM00053
2	<i>Candida albicans</i>	NCPF 3179	CIP48.72, NBRC1594, WDCM00054
2	<i>Escherichia coli</i>	NCTC 12923	NCIMB8545, CIP53.126, NBRC3972, WDCM00012
2	<i>Pseudomonas aeruginosa</i>	NCTC 12924	NCIMB8626, CIP82.118, NBRC13275, WDCM00026
2	<i>Staphylococcus aureus</i>	NCTC 10788	CIP4.83, NCIMB9518, NBRC13276, FDA209, WDCM00032

*Standard deviation <3.5; **Standard deviation < 4; ***Standard deviation <4.5; #Standard deviation ≤15%;
 ****Mean of between 40 and 60 cfu with a standard deviation of 7 cfu or less.

Strains sourced from NCTC, NCPF, IMVS, ACM, ATCC and DSMZ. ATCC is a trademark belonging to the American Type Culture Collection. NCTC is a trademark of the Public Health England

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BioBall™

...Delivering **Confidence**
in Quantitative Microbiology

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