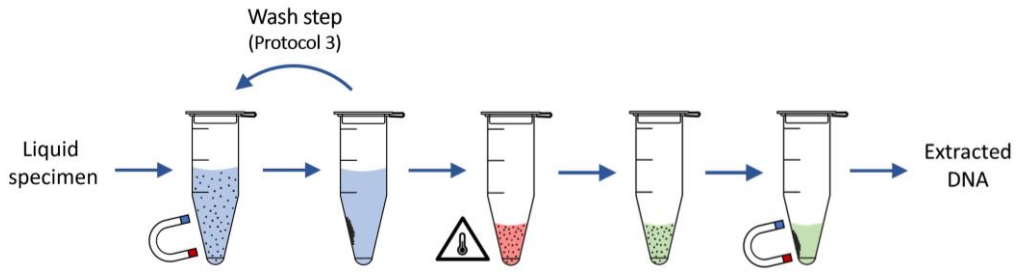
SwiftX™ ParaBact *Technical Sheet*

► SwiftX™ ParaBact – designed for bacteria and parasite extraction

The following components are included in the kit:

- **Buffer BPE** (25mL): Maintains integrity of biological cells and enables efficient capturing of a wide range of bacteria and parasites to our paramagnetic particles.
- **Beads A** (0.75mL): Bifunctional paramagnetic particles enabling species-independent binding of cells as well as removal of inhibitors and cell debris by reverse purification.
- **Buffer BPL** (5mL): Formulated for efficient lysis of cells, particularly in conjunction with the application of heat. The buffer also actively removes RNA from the lysate.
- **Buffer AD** (1mL): Added after cell lysis; renders the DNA lysate compatible with downstream applications such as PCR or isothermal amplification technologies, and nanopore sequencing.



► Powerful cell lysis

- Improved cell lysis driven by **alkaline conditions** in addition to heat incubation. Applicable to a wide range of targets, such as various bacteria, parasitic protozoa, fungi, and animal and human host cells
- **Superior** to competitor's direct lysis methods due to bead-based **inhibitor removal** (reverse purification)

Comparison of lysis efficiencies of Buffer BPL (part of SwiftX™ ParaBact) and Buffer DL (part of SwiftX™ DNA):

Species	Kingdom	Order	Buffer BPL	Buffer DL
Escherichia coli	Bacteria	Enterobacterales	++	++
Staphylococcus aureus	Bacteria	Bacillales	+	o
Pseudomonas aeruginosa	Bacteria	Pseudomonadales	++	++
Mycobacterium tuberculosis	Bacteria	Mycobacteriales	++	++
Streptococcus pneumoniae	Bacteria	Lactobacillales	+	++
Bordetella pertussis	Bacteria	Burkholderiales	++	++
Candida albicans	Fungi	Saccharomycetales	+	++
Aspergillus brasiliensis	Fungi	Eurotiales	++	++
Cryptosporidium parvum	Apicomplexa	Eucoccidiorida	++	+

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Improved cell capture from liquid specimens

- The capabilities of SwiftX™ ParaBact for capturing of biological cells have been optimized for **capturing of bacteria and parasites** from various liquid samples types.

Comparison of cell capturing efficiencies of Buffer BPE (part of SwiftX™ ParaBact) and Buffer EN (part of SwiftX™ DNA):

Species	Kingdom	Order	Buffer BPE	Buffer EN
Mycoplasma hyorhinis	Bacteria	Mycoplasmatales	++	++
Staphylococcus aureus	Bacteria	Bacillales	++	++
Listeria monocytogenes	Bacteria	Bacillales	++	+
Streptococcus suis	Bacteria	Lactobacillales	++	-
Streptococcus pneumonia	Bacteria	Lactobacillales	+	o
Leptospira interrogans	Bacteria	Leptospirales	++	++
Borrelia burgdorferi & myamotai	Bacteria	Spirochaetales	++	n.d.
Proteus mirabilis	Bacteria	Enterobacterales	++	++
Klebsiella pneumoniae	Bacteria	Enterobacterales	++	++
Escherichia coli	Bacteria	Enterobacterales	++	o
Salmonella typhimurium	Bacteria	Enterobacterales	++	o
Mycobacterium ulcerans & leprae	Bacteria	Mycobacteriales	++	++
Mycobacterium tuberculosis	Bacteria	Mycobacteriales	++	+
Rhodococcus hoagii	Bacteria	Mycobacteriales	++	+
Anaplasma phagocytophilum	Bacteria	Rickettsiales	++	+
Neoehrlichia spp	Bacteria	Rickettsiales	++	+
Rickettsia spp.	Bacteria	Rickettsiales	++	n.d.
Pseudomonas aeruginosa	Bacteria	Pseudomonadales	++	+
Acinetobacter pittii	Bacteria	Pseudomonadales	++	+
Bordetella pertussis & parapertussis	Bacteria	Burkholderiales	++	++
Aspergillus brasiliensis	Fungi	Eurotiales	++	++
Schistosoma haematobium (eggs)	Animalia	Diplostomida	++	++
Cryptosporidium parvum (oocysts)	Apicomplexa	Eucoccidiorida	+	-
Babesia spp.	Apicomplexa	Piroplasmida	++	o
Leishmania spp.	Euglenozoa	Trypanosomatida	n.d.	++
Plasmodium spp.	Apicomplexa	Haemosporida	n.d.	+
Toxoplasma gondii	Apicomplexa	Eucoccidiorida	n.d.	+

Validated for a wide range of sample types

- ✓ Urine
- ✓ Saliva
- ✓ Sputum
- ✓ Whole blood
- ✓ Cerebrospinal fluid
- ✓ Fine-needle aspirates
- ✓ Wastewater
- ✓ Cell cultures
- ✓ Tissue homogenates
- ✓ Liquid-based cytology media
- ✓ Guanidine-free transport media