

**Sample Preparation Protocol ( 2015/12)**

Classify	Sample type	Pretreatment Buffer	Sample Size	Beating beads	tacoPrep Cycle	Procedure	taco Kit	Supernatant Input Volume	Eluting Volume
Aquaculture	Fish fin (pectoral fins)	taco DNA/RNA Lysis Buffer:500 µl	20 mg	2.5 mm Steel Beads x 6	1	1. Homogenize tissue by tacoPrep or disposable grinder. 2. Vortex for 30 seconds. Centrifuge at 12000 x g for 5 minutes to spin down the debris. 3. Transfer 400 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	400 µl	50-200 µl
	Fish gill	taco DNA/RNA Lysis Buffer:500 µl	20 mg	2.5 mm Steel Beads x 6	1	1. Homogenize tissue by tacoPrep or disposable grinder. 2. Vortex for 30 seconds. Centrifuge at 12000 x g for 5 minutes to spin down the debris. 3. Transfer 400 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	400 µl	50-200 µl
	Fish kidney	PBS 500 µl	40 mg	2.5 mm Steel Beads x 6	1	1. Homogenize tissue by tacoPrep or disposable grinder 2. Centrifuge by cubee for 1 minute to spin down the debris. 3. Transfer 200 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
	Fish spleen	PBS 500 µl	40 mg	2.5 mm Steel Beads x 6	1	1. Homogenize tissue by tacoPrep or disposable grinder. 2. Centrifuge by cubee for 1 minute to spin down the debris. 3. Transfer 200 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
Avian	Joint (hock) fluid	N/A	200 µl	N/A	N/A	Centrifuge with cubee for 5 minutes	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
	Liver	PBS 500 µl	40 mg	2.5 mm Steel Beads x 6	2	1. Homogenize tissue by tacoPrep or disposable grinder. 2. Centrifuge by cubee for 1 minute to spin down the debris. 3. Transfer 200 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	200 µl	200 µl
	Nasal cavity Swab	PBS 500 µl	1 swab	N/A	N/A	1. Swirl the swab in 1 ml PBS for 30 seconds. 2. Centrifuge with cubee for 1 minute. 3. Transfer 200 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
	Spleen	PBS 500 µl	40 mg	2.5 mm Steel Beads x 6	2	1. Homogenize tissue by tacoPrep or disposable grinder. 2. Centrifuge by cubee for 1 minute to spin down the debris. 3. Transfer 200 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	200 µl	200 µl

\* PBS: Phosphate-Buffered Saline.

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Avian	Larynx swab	PBS:1000 µl	1 swab	N/A	N/A	1. Swirl the swab in 1 ml PBS for 30 seconds. 2. Centrifuge with cubee for 1 minute. 3. Transfer 200 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
	Tracheal swab	PBS:1000 µl	1 swab	N/A	N/A	1. Swirl the swab in 1 ml PBS for 30 seconds. 2. Centrifuge with cubee for 1 minute. 3. Transfer 200 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
Bee	Nosema ceranae Spore	taco Total DNA Lysis Buffer:250 µl	N/A	0.25 g Glass beads (425-600 µm)	4	1. 12000 x g for 1 minutes discard the supernatant. 2. Homogenize sopre with lysis buffer by tacoPrep. 3. Centrifuge at 12000 x g for 5 minutes to spin down the debris. 3. Transfer 200 µl of the supernatant for extraction.	taco Total DNA Extraction Kit	200 µl	50-200 µl
Bovine	Milk	N/A	200 µl	N/A	N/A	N/A	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
	Vaginal scrape	PBS:5000 µl	200 µl	N/A	N/A	1. Use the sterile artificial insemination (AI) pipette to scrape vaginal mucous several times. 2. Take out the AI pipette and put into centrifuge tube with 5000 µl PBS. Then mix well.	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
	Vaginal swab	PBS:1000 µl	1 swab	N/A	N/A	1. Swirl the swab in 1 ml PBS for 30 seconds. 2. Centrifuge with cubee for 1 minute. 3. Transfer 200 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
	Whole blood	N/A	200 µl	N/A	N/A	N/A	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
Canine	Conjunctival swab	PBS:1000 µl	1 swab	N/A	N/A	1. Swirl the swab in 1 ml PBS for 30 seconds. 2. Centrifuge with cubee for 1 minute. 3. Transfer 200 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
	Whole Blood	N/A	200 µl	N/A	N/A	N/A	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
Feline	Conjunctival swab	PBS:1000 µl	1 swab	N/A	N/A	1. Swirl the swab in 1 ml PBS for 30 seconds. 2. Centrifuge with cubee for 1 minute. 3. Transfer 200 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
	Whole Blood	N/A	200 µl	N/A	N/A	N/A	taco DNA/RNA Extraction Kit	200 µl	50-200 µl

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Equine	Semen sample	N/A	N/A	N/A	N/A	1. Centrifuge with cubee for 10 minute. 2. Transfer 200 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
	Whole blood	N/A	200 µl	N/A	N/A	N/A	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
	Upper respiratory tract swab	PBS:1000 µl	1 swab	N/A	N/A	1. Swirl the swab in 1 ml PBS for 30 seconds. 2. Centrifuge with cubee for 1 minute. 3. Transfer 200 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
Swine	Lymph node	PBS:500 µl	40 mg	2.5 mm Steel Beads x 6	2	1. Homogenize tissue by tacoPrep or disposable grinder. 2. Centrifuge by cubee for 1 minute to spin down the debris. 3. Transfer 100 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	100 µl	200 µl
	Lung	PBS:500 µl	40 mg	2.5 mm Steel Beads x 6	2	1. Homogenize tissue by tacoPrep or disposable grinder. 2. Centrifuge by cubee for 5 minute to spin down the debris. 3. Transfer 100 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	200 µl	200 µl
	Oral mucosal swab	PBS:1000 µl	1 swab	N/A	N/A	1. Swirl the swab in 1 ml PBS for 30 seconds. 2. Centrifuge with cubee for 10 seconds. 3. Transfer 200 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
	Oral swab	PBS:1000 µl	1 swab	N/A	N/A	1. Swirl the swab in 1 ml PBS for 30 seconds. 2. Centrifuge with cubee for 10 seconds. 3. Transfer 200 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
	Rectal swab/fecal swab	PBS:1000 µl	1 swab	N/A	N/A	1. Swirl the swab in 1 ml PBS for 30 seconds. 2. Centrifuge with cubee for 5 minutes. 3. Transfer 200 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
	Serum	N/A	200 µl	N/A	N/A	N/A	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
	Spleen	PBS:500 µl	40 mg	2.5 mm Steel Beads x 6	2	1. Homogenize tissue by tacoPrep or disposable grinder. 2. Centrifuge by cubee for 1 minute to spin down the debris. 3. Transfer 100 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	100 µl	50-200 µl

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Swine	Swine small intestine	PBS:500 µl	40 mg	2.5 mm Steel Beads x 6	2	1. Homogenize tissue by tacoPrep or disposable grinder. 2. Centrifuge by cubee for 5 minutes to spin down the debris. 3. Transfer 200 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
	whole blood	N/A	200 µl	N/A	N/A	N/A	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
Sheep/Goat	Milk	N/A	200 µl	N/A	N/A	N/A	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
	Vaginal swab	PBS:1000 µl	1 swab	N/A	N/A	1. Swirl the swab in 1 ml PBS for 30 seconds. 2. Centrifuge with cubee for 1 minute. 3. Transfer 200 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
	Whole blood	N/A	200 µl	N/A	N/A	N/A	taco DNA/RNA Extraction Kit	200 µl	50-200 µl
Fungus	Fresh Mushroom	taco Plant DNA/RNA Lysis Buffer:500 µl	100 mg	2.5 mm Steel Beads x 6	2	1. Homogenize sample by tacoPrep. 2. Vortex for 30 seconds. Centrifuge at 12000 x g for 5 minutes to spin down the debris. 3. Transfer 400 µl of the supernatant for extraction.	taco Plant DNA/RNA Extraction Kit	400 µl	150 µl
	Yeast	taco DNA/RNA Lysis Buffer:500 µl	2 ml(OD 600=1.4)	0.25 g Glass beads (425-600 µm)	E5	1. 12000 x g for 5 minutes discard the supernatant. 2. Homogenize yeast with lysis buffer by tacoPrep. 3. Centrifuge at 12000 x g for 5 minutes to spin down the debris. 3. Transfer 400 µl of the supernatant for extraction.	taco DNA/RNA Extraction Kit	400 µl	50-200 µl
Plant	Carrot (root)	taco Plant DNA/RNA Lysis Buffer:500 µl	20 mg	2.5 mm Steel Beads x 6	2	1. Homogenize tissue by tacoPrep. 2. Vortex for 30 seconds. Centrifuge at 12000 x g for 5 minutes to spin down the debris. 3. Transfer 400 µl of the supernatant for extraction.	taco Plant DNA/RNA Extraction Kit	400 µl	150 µl
	Corn	taco Plant DNA/RNA Lysis Buffer:500 µl	1 seed	2.5 mm Steel Beads x 6	E6	1. Homogenize tissue by tacoPrep. 2. Vortex for 30 seconds. Centrifuge at 12000 x g for 5 minutes to spin down the debris. 3. Transfer 400 µl of the supernatant for extraction.	taco Plant DNA/RNA Extraction Kit	400 µl	150 µl

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Plant	Mung Bean	taco Plant DNA/RNA Lysis Buffer:500 µl	1 seed	2.5 mm Steel Beads x 6	E1	1. Homogenize tissue by tacoPrep. 2. Vortex for 30 seconds. Centrifuge at 12000 x g for 5 minutes to spin down the debris. 3. Transfer 400 µl of the supernatant for extraction.	taco Plant DNA/RNA Extraction Kit	400 µl	150 µl
	Potato (tuber parenchyma tissue)	taco Plant DNA/RNA Lysis Buffer:500 µl	20 mg	2.5 mm Steel Beads x 6	2	1. Homogenize tissue by tacoPrep. 2. Vortex for 30 seconds. Centrifuge at 12000 x g for 5 minutes to spin down the debris. 3. Transfer 400 µl of the supernatant for extraction.	taco Plant DNA/RNA Extraction Kit	400 µl	150 µl
	Rice	taco Plant DNA/RNA Lysis Buffer:500 µl	1 seed	2.5 mm Steel Beads x 6	1	1. Homogenize tissue by tacoPrep. 2. Vortex for 30 seconds. Centrifuge at 12000 x g for 5 minutes to spin down the debris. 3. Transfer 400 µl of the supernatant for extraction.	taco Plant DNA/RNA Extraction Kit	400 µl	150 µl
	Sweet Potato (ground tissue)	taco Plant DNA/RNA Lysis Buffer:500 µl	20 mg	2.5 mm Steel Beads x 6	2	1. Homogenize tissue by tacoPrep. 2. Vortex for 30 seconds. Centrifuge at 12000 x g for 5 minutes to spin down the debris. 3. Transfer 400 µl of the supernatant for extraction.	taco Plant DNA/RNA Extraction Kit	400 µl	150 µl
	Tobacco leave	taco Plant DNA/RNA Lysis Buffer:500 µl	100 mg	2.5 mm Steel Beads x 6	1	1. Homogenize tissue by tacoPrep. 2. Vortex for 30 seconds. Centrifuge at 12000 x g for 5 minutes to spin down the debris. 3. Transfer 400 µl of the supernatant for extraction.	taco Plant DNA/RNA Extraction Kit	400 µl	150 µl
	Wheat	taco Plant DNA/RNA Lysis Buffer:500 µl	1 seed	2.5 mm Steel Beads x 6	4	1. Homogenize tissue by tacoPrep. 2. Vortex for 30 seconds. Centrifuge at 12000 x g for 5 minutes to spin down the debris. 3. Transfer 400 µl of the supernatant for extraction.	taco Plant DNA/RNA Extraction Kit	400 µl	150 µl