MEBEP TECH(HK) Co., Limited
Email: sales@mebep.com Website: www.mebep.com
Tel: +86-755-86134126 WhatsApp/Facebook/Twitter: +86-189-22896756

Avian Sex ID PCR Direct Kit

Product Number: DTK7801

Shipping and Storage

Transport at ambient temperature or with ice packs. Store 2×Bird PCR Mix and Avian Primer at -20°C; store the remaining components at 4°C. The shelf life is 12 months. Avoid excessive freeze-thaw cycles. For short-term use within one month, these reagents can be stored at 4°C.

Component

Component	100T	500T
Buffer AV1	1mL	5mL
Buffer AV2	1mL	5mL
2×Bird PCR Mix	1mL	5mL
Avian Primer	100μL	500μL
ddH_2O (PCR grade)	1mL	5mL

Description

This product uses a unique lysis buffer to rapidly lyse feather follicles. The released DNA can be used directly as a template without purification. It adopts classic bird CHD1 gene-specific primers and performs PCR amplification directly with highly inhibitor-tolerant 2×Bird PCR Mix. The sex of birds can be determined rapidly and accurately based on the number and size of bands from agarose gel electrophoresis: males (ZZ) show only a single Z-gene band, while females (ZW) yield two specific bands corresponding to Z and W. It is suitable for high-throughput, rapid and non-invasive sex identification of non-ratite birds (including parrots, pigeons, etc.).

Application

Compatible with most captive-bred non-ratite birds such as parrots, domestic pigeons, caged songbirds, ornamental finches, doves and pigeons.

Protocol

1. Collect 0.5–1 cm white feather roots with viable follicles (down feathers and hard feather shafts will not produce amplification signals). Cut the feather roots into small pieces and transfer them into a 0.2mL thin-walled PCR tube. The sampling amount can be adjusted according to feather root size to match the small lysis system and improve amplification success rate.
2. Add 10μL Buffer AV1 to submerge the cut feather roots in lysis buffer.
3. Incubate at 98°C for 15 min (PCR instrument is recommended). The lysis time can be adjusted from 10 min to 45 min as needed.
4. Take out the PCR tube and place it on ice. Add 10μL Buffer AV2. Mix by gently flicking or pipetting up and down. The mixture can be used directly as a PCR template or stored short-term at 4°C or -20°C.
5. PCR Amplification:

Recommended PCR Conditions (based on a 20μL reaction system)

Component	Volume	Final Concentration
Lysate Template	5μL	as required
Avian Primer	1μL	Not applicable
2×Bird PCR Mix	10μL	1×
ddH_2O to final volume	2μL	Not applicable

PCR Cycles

95°C 5min

95°C	30sec	
55-60°C	30sec	30-35 cycles
72°C	30-45sec	
72°C	5-10min	

Note

1. If amplification bands are faint, adjust the template input volume appropriately. The lysate template dosage can generally be adjusted within the range of 3μL–8μL.
2. If substantial non-specific amplification occurs, adjust the annealing temperature or modify the template amount.
3. Cap all solutions tightly immediately after use to prevent pH shift and performance deterioration.

Species-Specific Band Interpretation Criteria:

1. Parrots (Budgerigar, Cockatiel, Lovebird, Macaw, Sun Conure and all other pet parrots): Male: single band of 640–650bp; Female: two bands of 630–640bp + 410–415bp.
2. Rock pigeon / domestic pigeon / racing pigeon: Male: single band of 460bp; Female: two bands of 460bp + 320bp.
3. For most caged songbirds and small ornamental birds including canaries, munias, zebra finches, mynas, hwameis and larks, the fragment sizes are not fixed due to interspecies genetic differences. Follow the general interpretation rule of this kit: males produce only one band while females produce two bands. Results with clear bands and no non-specific background bands are valid.
4. Validity prerequisite: Positive control shows expected bands, negative control shows no band, and no contamination occurs during the assay.