

**GeNei™ *Alu*-PCR Teaching Kit**

**Description:** *Alu* is an example of a so-called "jumping gene" - a transposable DNA sequence that "reproduces" by copying itself and inserting into new chromosome locations. *Alu* is classified as a retroposon, because it is thought to require the retrovirus enzyme reverse transcriptase (rt) enzyme to make a mobile copy of itself. Most *Alu* mutations are "fixed," meaning that both of the paired chromosomes have an insertion at the same locus (position). However, a number of human-specific *Alus* are dimorphic - an insertion may be present or absent on each of the paired chromosomes of different people. *Alus* are excellent molecular markers for a variety of reasons. They aid in tracing the complex pattern of duplication and rearrangements that occurred during the evolution of primate genome. Unlike other mutations, *Alu* sequences are rarely lost completely once retroposed, have a defined ancestral state and are free from homoplasmy since independent and identical insertions are highly unlikely. Because of these characteristics, *Alus* are literally molecular fossils. Polymorphic *Alu* loci are especially useful in studies of human genetic diversity and in pedigree and forensic analysis.

The *Alu* PCR Teaching Kit enables the user to amplify the *Alu* loci with specific primer. The amplified products are then analysed on the agarose gel for presence or absence of dimorphic bands

The kit provides materials sufficient for 5 experiments.

**Ordering Information:**

Product	Size	Cat #
<b>GeNei™ <i>Alu</i>-PCR Teaching Kit</b> (Consumables for 5 experiments)	1 Pack	116650

**Materials Provided:**

- Taq DNA polymerase
- 10X Assay Buffer for Taq DNA Polymerase
- dNTP's Mix
- Control samples
- Primer #1
- Primer #2
- Nuclease free water
- 100 bp DNA Ladder
- Gel loading buffer
- Agarose
- Mineral oil
- 50X TAE
- PCR Tubes
- Instruction manual

**Note:** UV transilluminator, thermal cycler, **Electrophoresis system (Cat # 107070)** and EtBr are required.