

# AccuPower™ Ligation PreMix

AccuPower™ Ligation PreMix is a new, powerful, ready-to-use ligation reagent optimized for more accurate ligation reactions.

- Convenient lyophilized ligation premix which consists of T4 DNA ligase, ATP, and reaction buffer
- Requires just 5 minutes for cohesive end DNA ligation
- Ligation activity and stability up to 4 months at room temperature

## DESCRIPTION

The AccuPower™ Ligation PreMix is an all-in-one tube containing a lyophilized premix of all the necessary components for a ligation reaction. The mix includes T4 DNA ligase, ATP, reaction buffer and stabilizer. The chemical stabilizer (patent pending) maintains activity for 4 months even when stored at room temperature (25°C) and 2 years at -20°C. The AccuPower™ Ligation PreMix is designed for cohesive end ligation in 5 minutes and blunt end ligation in 10 minutes at room temperature. Rapid ligation is based on the combination of T4 DNA Ligase with an optimized premix buffer.

## FEATURES AND BENEFITS

### High Speed

The ligation can be performed in 5 minutes for cohesive ends and in 10 minutes for blunt end DNA at room temperature.

### Simplicity

The AccuPower™ Ligation PreMix is ready to use, thus offering virtually no reaction set up.

### Stability

The chemical stabilizer maintains enzyme activity for 4 months at room temperature, and 2 years at -20°C.

### Flexibility

Suitable for all common ligation reactions.

### Reproducibility

Batch manufacturing under strict ISO 9001 quality control system.

## QUALITY CONTROL

### Cohesive-end Ligation

> 95% of Hind III fragments of Lambda DNA are ligated in 5 minutes when 1 ug of DNA fragments in 20 ul is incubated with AccuPower™ Ligation PreMix at room temperature.

### Blunt-end Ligation

> 95% of EcoRV fragments of Lambda DNA are ligated in 10 minutes when 1 ug of DNA fragments in 20 ul is incubated with AccuPower™ Ligation PreMix at room temperature.

## APPLICATIONS

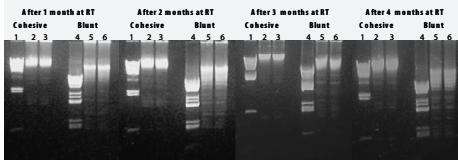
- Cloning into vectors
- Library construction
- TA cloning
- Linker ligation
- Recirculization of linear DNA

## STORAGE CONDITIONS

Storage temperature : -20°C

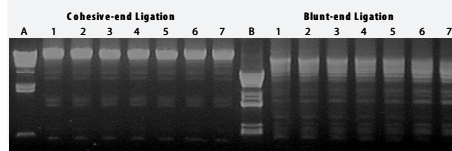
## EXPERIMENTAL DATA

Fig 1. Stability test of AccuPower™ Ligation PreMix at room temperature.



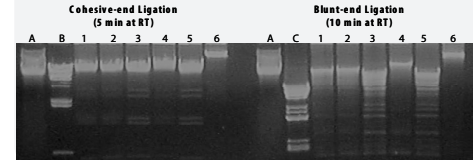
Lane 1: 1 ug of  $\lambda$  DNA / Hind III fragment  
Lane 2, 3: Cohesive-end ligation product with AccuPower™ Ligation PreMix  
Lane 4: 1 ug of  $\lambda$  DNA / EcoRV fragment  
Lane 5, 6: Blunt-end ligation product with AccuPower™ Ligation PreMix

Fig 2. Ligation efficiency test of AccuPower™ Ligation PreMix using various reaction times.



Lane A: 1 ug of  $\lambda$  DNA / Hind III fragment  
Lane B: 1 ug of  $\lambda$  DNA / EcoRV fragment  
Lane 1: Ligation incubation for 60 min at RT  
Lane 2: Ligation incubation for 40 min at RT  
Lane 3: Ligation incubation for 30 min at RT  
Lane 4: Ligation incubation for 20 min at RT  
Lane 5: Ligation incubation for 10 min at RT  
Lane 6: Ligation incubation for 10 min at RT  
Lane 7: Ligation incubation for 5 min at RT

Fig 3. Ligation comparison between AccuPower™ Ligation PreMix and other competitor's products



Lane A: Intact  $\lambda$  DNA  
Lane B:  $\lambda$  DNA / Hind III fragment  
Lane C:  $\lambda$  DNA / EcoRV fragment  
Lane 1, 2: AccuPower™ Ligation PreMix  
Lane 3: T4 DNA Ligase from company N  
Lane 4: Quick Ligation Kit from company N  
Lane 5: LigaFast Rapid DNA Ligation System from company P  
Lane 6: Ready-To-Go T4 DNA Ligase from company A

## ORDERING INFORMATION

PRODUCTS	SIZE	CAT.NO
AccuRapid™ DNA Ligation Kit	50 ligations	K-7101
AccuRapid™ DNA Ligation Kit	150 ligations	K-7102
AccuPower™ Ligation PreMix	96 ligations	K-7103

## CONTACT

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