

Purpose: To cut at restriction sites and remove inserted DNA from plasmid

#### Restriction Digest Protocol

30  $\mu$ L Fast Digest Restriction Digest

1. Prepare a Fast Digest concentration cocktail with the following proportions: 1  $\mu$ L Restriction Enzyme #1, 1  $\mu$ L Restriction Enzyme #2, 3  $\mu$ L of 10X Fast Digest Buffer, and 15  $\mu$ L of diH<sub>2</sub>O.
2. Add 20  $\mu$ L of this cocktail to a clean 1.5 Eppendorf tube and then add 10  $\mu$ L of DNA
3. Incubate at 37° C for 30 minutes.

Purpose: To digest large amounts of plasmid for gel extraction

#### Restriction Digest Protocol

250  $\mu$ L Fast Digest Restriction Digest

4. Prepare a Fast Digest concentration cocktail with the following proportions: 25  $\mu$ L Restriction Enzyme #1, 25  $\mu$ L of 10X Fast Digest Buffer, and 100  $\mu$ L of diH<sub>2</sub>O.
5. Add 20  $\mu$ L of this cocktail to a clean 1.5 Eppendorf tube and then add 100  $\mu$ L of DNA
6. Incubate at 37° C for 3 hours.

Purpose: To inactivate the restriction enzymes before a ligation is performed

#### Heat Kill

1. Place digested DNA in water bath at 65° C for 20 minutes