

## GENETIC ENGINEERING: GENE DOPING, GENE MANIPULATION, GENE THERAPY AND GENE EDITING

### 1. Changes to the Prohibited Substance Regulations

New definitions and wording clarify what is and isn't allowed:

- **Licensed vaccines:**  
Only ACVM-registered vaccines for horses are allowed, including those that use DNA or RNA technology (e.g. mRNA vaccines).
- **Gene-altering agents:**  
Any substance that can affect or change gene expression, directly or indirectly, is banned. This includes gene editing agents and anything that modifies DNA, RNA, or epigenetic functions.

### 2. New Definitions (added to the Rules)

- **Gene Editing:**  
Any method that adds, removes, or replaces DNA in a horse's genome.
- **Gene Therapy:**  
Any treatment that uses genetic material or modified cells to change how genes behave or are expressed.  
This includes things like DNA or RNA treatments, genetically modified cells, or agents that alter gene activity.

However, these are *not* considered Gene Therapy:

- Platelet-rich plasma (PRP) or autologous serum (blood-based) treatments
- Unmodified stem cells
- Unmodified exosome therapy
- Normal licensed vaccines (as listed above)

### 3. Prohibition of Gene Editing (Rule 805(1))

- **Completely banned at all times.**  
No one may perform, help perform, or attempt Gene Editing on any horse, ever.

### 4. Possession Offences (Rule 801)

It is an offence to:

- Perform or allow Gene Doping, Gene Editing, or Gene Therapy (unless explicitly allowed).
- Possess any genetic material or equipment that could be used for Gene Editing.

### 5. Prohibition of Gene Therapy (Rule 805(2))

- Generally prohibited, except in rare, approved medical cases.
- **Gene Therapy can only be used if:**
  1. It's approved *in advance* by NZTR to treat a diagnosed injury or disorder.
  2. The owner/trainer keeps detailed records of the therapy for at least five years.
  3. It doesn't endanger the horse.
  4. It doesn't enhance or harm performance.
  5. It can't change the horse's heritable (genetic) makeup.

- **Penalties and restrictions:**



- Horses that have undergone Gene Editing are not allowed to race or breed.
- Horses given Gene Therapy without NZTR approval may be barred from racing for as long as NZTR decides.