

**VELOCITY**  
EQUINE PERFORMANCE AND RECOVERY GELS



THE WINNING FORMULA TO HARNESS  
YOUR HORSE'S TRUE POTENTIAL



## WHO IS HARNES BIOTECHNOLOGY?

Harness is the official global rights holder and licensor of the Carnosine Complex (**Velocity**) for the equine industry. Carnosine has been widely studied for its effects on improved wound healing, antioxidant activity and its anti-aging properties since the early 1900's. **Velocity** is a topical application that directly (and near immediately) increases levels of Carnosine in muscles, a feat which had been deemed impossible until now.

## FATIGUE IN HORSES

During exercise or racing, horses rely on glycolysis to fuel their performance. Glycolysis, which converts sugars to energy, results in an increase in hydrogen ions, causing muscles to become acidic. As this happens fatigue begins to set in and performance quickly decreases. Muscle acidity is one of the main reasons a horse's performance begins to decline late in a race. Increasing the level of Carnosine within the horse's muscles with **Velocity**, increases the muscle's ability to balance this acidity and delay fatigue during high-intensity exercise.

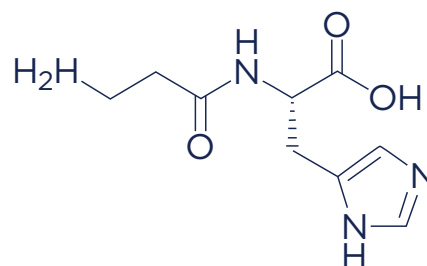
## WHAT IS CARNOSINE?

The muscles in horses utilize several different methods of reducing the acidic environment during high-intensity exercise, the main method consisting of a molecule called Carnosine. Carnosine acts like a molecular sponge, soaking up hydrogen ions and preventing acid build up. Carnosine plays an essential role in exercise performance since it offers various beneficial characteristics including pH buffering, anti-oxidant, anti-glycation, and anti-crosslink activities (Miwako Mori, 2015).

Horses rely on carnosine to a much greater degree than humans. In fact, elite trained human athletes can have carnosine levels around 25-35 mmol/kg while horses can have upwards of 120-130 mmol/kg. In horses, large muscles involved in running contain substantially more carnosine than other muscles. Increasing levels of carnosine in horses dramatically improves the buffering capacity and makes muscles more resistant to fatigue, allowing them to run faster, harder, longer, a push limits.

## PREVIOUS ATTEMPTS TO INCREASE CARNOSINE

Increasing muscle carnosine has been a focus in equine research for nearly three decades. Orally feeding carnosine does not work, as it gets broken down in the blood by an enzyme called carnosinase. The standard approach to increase muscle carnosine has been feeding horses the precursor molecules that create carnosine: beta-alanine and histidine. This has led to small increases in muscle carnosine and only small improvements in performance. Oral ingestion takes weeks, if not months, for results to occur. Studies have shown that a minimum of one month of daily feedings of high doses is required for any notable results to be seen.



## THE INTRODUCTION OF VELOCITY

Until now, increasing muscle carnosine was virtually impossible and/or highly inefficient. Now, with **Velocity**, you can increase muscle Carnosine by delivering it directly into the muscles in less than an hour. Our patented and tested formula delivers carnosine directly through the skin and into the musculature. This means no load times, no special feeding schedule, and increased performance, instantly.

*The Harness Equine Formula for distribution of Carnosine is allowable by all state equine racing federations. The Harness Equine Formula is comprised of what is known as "GRAS" ingredients (generally recognized as safe).*

*Available in 32oz or 5 gal sizes.*

