Genetic Markers for Cattle

Genetic Markers Associated with Desirable Traits in Cattle Breeding

(07-022)

Background:

Increased growth rates are typically associated with higher economic returns to beef producers. Consequently, methods to improve growth rate in cattle are of significant benefit to producers. Prior art methods of increasing growth has included such approaches as the use of hormone implants (Bagley et al., 1989), sub-therapeutic levels of antibiotics (Schumann et al, 1990) and by selective breeding based on expected progeny differences (EPD) (Kress et al., 1977). However, hormone implants and the use of 20 antibiotics are becoming unpopular and may be banned in North America in the near future. Therefore, alternative methods of improving growth rates of cattle that don't require artificial forms of stimulation will become increasingly important and desirable in the industry.

Invention:

Trait name	Target Trait
Insulin-like growth factor 2	- Parents to produce calves with a birth weight that improves their chances of survival and reduces the need for assistance during birthing. - Animals with increased Rib Eye Area as well as marbling
Corticotropin releasing hormone (CRH)	- Increased carcass weight - Increased rib-eye area - Increased adjusted weaning weight.
Pro-opiomelanocortin (POMC)	- Increased shipping weight - Increased average daily gain - Increased hot carcass weight.
Melanocortin-4 receptor (MC4R)	- Increased carcass weight.
Pro-Melanin-Concentrating-Hormone	- Higher grade fat depth and higher average fat depth - Lower shear force (improved tenderness and palatability.

Industry Liaison Office
121 Research Drive, Suite 501
Saskatoon, SK, S7N 1K2
Tel: (306) 966-1465 | Fax: (306) 966-7806

Genetic Markers for Cattle

Genetic Markers Associated with Desirable Traits in Cattle Breeding

(07-022)

Patents:

- CRH and POMC Effects on Animal Growth (US. 7,226,743) (Our Ref 03-002)
- CRH and POMC Effects on Animal Growth (US. 7,575,903) (Our Ref 06-043)
- CRH and POMC Effects on Animal Growth (US. 7,993,882) (Our Ref 06-043)
- Production Characteristics of Cattle (Our Ref US. 2007/0026404)
- Genetic Variation in Pro-Melanin-Concentrating-Hormone gene affects carcass traits in cattle (US. 8,008,011) (Our Ref 07-022)

Partnership

Technology is ready for licensing

Principle Inventors:

Sheila Schmutz, Ph.D.
Professor
University of Saskatchewan

Fiona Buchanan, Ph.D.
Professor
University of Saskatchewan

Licensing Manager:

Zafer Bashi, Ph.D
Technology Transfer Officer Start-up
Industry Liaison Office
University of Saskatchewan
306-966-7033
zafer.bashi@usask.ca