NATURAL WOUND HEALING FOR DOGS AND CATS
Aptus® products are marketed by Orion Pharma which is a Finnish pharmaceutical company that develops and manufactures medicines, diagnostic tests and active pharmaceutical ingredients for global markets. Orion Pharma has been building well-being since 1917.
When tissue is healthy, the extracellular matrix (ECM) provides support for cells and regulates intercellular communication. When an injury occurs, signals are released from the tissue that stimulate cells to repair the injury. Unfortunately, the process often leads to the formation of scar tissue rather than the appropriate new tissue.

Aptus® SentrX products provide matrices that work with the animal’s natural repair system to encourage enhanced production of the appropriate ECM, leading to new healthy tissue.

Aptus® SentrX existing and coming products are based on chemically-modified glycosaminoglycans (GAGs), and other biopolymers in the extracellular matrix (ECM), to fabricate films and hydrogels.

These formulations are fully biocompatible, biodegradable at controlled rates, and non-immunogenic.

Aptus® SentrX cross-linking technology permits in situ cross-linking of hydrogels that can be easily and quickly applied. These biomaterials have been described in a large number of scientific publications (see page 24).

An example of the synthesis of one proprietary version of the Company’s biomaterial is shown below:

Hyaluronic acid (HA), is chemically modified to add sulfhydryl groups, producing Hyascent-S (also referred to as CMHA-S). CMHA-S is crosslinked using poly(ethylene glycol) diacrylate (PEGDA) to form a hydrogel. This hydrogel is then dried to form the Aptus® SentrX films.

A sheet of Aptus® SentrX film
PRODUCTS AVAILABLE ON THE MARKET WITH APTUS® SENTRX TECHNOLOGY ARE FOLLOWING:

For wound healing management
- Aptus® SentrX spray, 60 ml

For use in the prevention of post-surgical adhesions
- Aptus® SentrX film (adhesion prevention film), 3 X 7 cm (6 pieces), 10 x 15 cm (6 pieces)

For dry eyes
- Aptus® SentrX eye gel drops, 15 ml bottle
  Can also be used for traumatic noninfected lesions.
THE COMPOSITION OF APTUS® SENTRX EXISTING AND COMING PRODUCTS

Although there are differences in formulations among the various products, in general they all consist of significantly chemically modified glycosaminoglycans. These are generally very large molecules that are chemically linked to one another to create a scaffold matrix.

The “molecular scaffold” creates an ideal environment for cells to grow and differentiate into the appropriate tissue. The specific chemical formulation of each product is proprietary and is covered by US and international patents.
WOUND HEALING MANAGEMENT
Aptus® SentrX wound healing spray provides wound management for chronic and/or traumatic wounds to the skin of dogs and cats. It is effective in promoting rapid wound closure by providing a matrix for cellular events that are required for normal healing to occur.

**Frequency of application**
This depends on a number of different factors. In young, healthy animals with a fresh, uncomplicated wound, a single application may be sufficient to accelerate wound closure. For older animals or ones that are in poor health, or wounds that have been chronically unresponsive to various therapies, multiple applications for weeks or months may be necessary. Slow responders may need repeated debridement as well.

*Aptus® SentrX spray is a sterile product and durable 2 years from day of manufacture. Store in room temperature.*

For examples, see www.sentrxanimalcare.com.

*Aptus® SentrX products are a vital part of the first aid kit and must be on-hand when you need them. Keep an inventory readily available in your practice.*
PREVENTION OF POST-SURGICAL ADHESIONS
APTUS® SENTRX FILM

Aptus® SentrX film is a medical device that provides a biodegradable, biocompatible temporary barrier between tissues which are likely to inappropriately heal together causing adhesions, while simultaneously providing post-operative tissue management. Aptus® SentrX film provide a physical adhesion barrier and accelerate the natural healing process of injured tissues.

Aptus® SentrX film can be used for tendon adhesion prevention at the time of first surgery, abdominal or neural adhesion prevention or in any subsequent surgeries that could be required to repair adhesions from earlier surgery(s). See how to use the film on page 14-15

Aptus® SentrX film is a sterile product and durable 2 years from day of manufacture. Store in room temperature.

For examples, see www.sentrxanimalcare.com.

Aptus® SentrX products are a vital part of the first aid kit and must be on-hand when you need them. Keep an inventory readily available in your practice.
DRY EYES
APTUS® SENTRX EYE GEL

Aptus® SentrX eye gel is intended for moisturizing and lubricating dogs’, cats’ and horse’s eyes. It is useful for dry eyes and for when there is a noninfected trauma involved. Aptus® SentrX eye gel relieves the discomfort animals can experience when having an injured eye.

Frequency of application
Aptus® SentrX eye gel works by directly drop the substance into the eye. The eyelids natural movement will distribute the eye gel evenly over the eye’s surface. Aptus® SentrX eye gel can be used until normal function of the eyes are restored. Only use Aptus® SentrX eye gel under the supervision of a veterinarian.

Aptus® SentrX eye gel is a sterile product and durable 2 years from day of manufacture. Store in room temperature.

For examples, see www.sentrxanimalcare.com.

Aptus® SentrX products are a vital part of the first aid kit and must be on-hand when you need them. Keep an inventory readily available in your practice.
How do the products accelerate wound healing?

When tissue is healthy, its extracellular matrix (ECM) provides support for cells and regulates communication between these cells. When an injury occurs, signals are released from the tissue that stimulates cells to repair the injury. Unfortunately, the process often leads to the formation of scar tissue rather than the appropriate new ECM. Aptus® SentrX products provide matrices that work with the animal’s natural repair system to encourage enhanced production of the appropriate ECM, leading to new healthy tissue.

How and when should the products be used?

These films and gels are designed to be used on fresh or debrided wounds. Because the products need access to the appropriate cells for healing, they do not work when applied to a mature, scabbed wound. The products should be applied directly to the wound surface, which can be dressed in the normal way, as per the veterinarian’s practice.

How long does the material remain on a wound from time to time of treatment?

The answer depends on the formulation. These materials can be engineered to biodegrade at various rates. The film for example degrade slower than the spray after application.

How often should a wound be retreated?

If a wound is dressed, then we recommend that a re-treatment should be done at each re-dressing. If the wound cannot be dressed, then treatment should be done daily until the wound is healed. Slow responders may need repeated debridement as well.

How should Aptus® SentrX film be used?

The films can be used externally on wounds but are mainly intended for internal use of post-surgical abdominal adhesions, neural adhesions and tendon/ligament adhesions. Films are placed between potentially sticky tissues to prevent adhesions, which would likely require a second surgery. Many surgeons are familiar with how to use films for these purposes. Sterile film may be pre-hydrated with sterile water/saline or with body fluid at the surgical site before placing them among or around potentially adhesion tissues such as tendons, neural tissues and/or internal abdominal anatomy. Upon hydration, the film may tend to curl because it is initially hydration on one side. Flipping the film over, or first dragging it through the fluid and then flipping the film will result in flat film that can be easily handled and place in the desired location.
Flipping Aptus Sentrx film before placing, for easy handling.

Placing Aptus Sentrx film in the wound.
CASE STUDIES

Note: The original company SENTRX SURGICAL, INC. has today been divided in to Sentrx Animal Care, Inc., Carbylan Biosurgery, Inc. and Glycosan Biosystems, Inc. Therefor other product names than Aptus® SentrX are used in these case studies.
CASE STUDY:
DR PATRICIA KUPANOFF,
FELINE MAY 2008,
FELITRX WOUND HEALING GEL

This cat presented to Dr. Kupanoff on May 11, 2008 with a large wound at the base of his tail. The wound was infected and in need of debridement. Surgery was performed but the wound was not able to be closed with suture due to the difficult location and size.

On day 2, FelitrX gel was applied. Dr. Kupanoff continued to apply FelitrX every day. As the tissue granulated in, it became more feasible to surgically close the wound. Several surgeries were performed, as the wound had to be closed in stages. FelitrX was used throughout the treatment of this wound, and accelerated the healing process enabling Dr. Kupanoff to successfully close the entire wound 16 days after initial presentation.

Note: FelitrX wound healing gel is in our region marketed under the brand name Aptus’ SentrX spray.
CASE STUDY:
DR NIKLOS WEBER, DVM,
WHISPERING PINES PET
CLINIC, CANINE NOVEMBER-
DECEMBER 2008, CANITRX
WOUND HEALING GEL

This chronic wound on a dog’s neck had been open for 6 months after the dog was likely bitten by a rattlesnake. This chronic wound was previously diagnosed “untreatable” by another veterinarian that examined this dog prior to her coming to Whispering Pines. Once Dr. Weber was able to get the wound free of infection and necrotic tissue, he began applying CanitrX wound healing gel at all bandage changes, every 2-3 days. In just 50 days, this wound had almost completely healed.

November 12, 2008
November 17, 2008

December 1, 2008
December 12, 2008
December 19, 2008

Note: CanitrX wound healing gel is in our region marketed under the brand name Aptus’ SentrX spray.
CASE STUDY: 
DR JEN TRIPPANY, WILLOW RUN VETERINARY SERVICES, ROCKFORD,MI CANDY, OCTOBER 2008, CANINE, CANITRX WOUND HEALING GEL

Candy is a 15-year old German Shepard. She has a granulomatous mass excised from her dorsal rear paw.

CanitrX wound healing gel was applied post-operatively and at each bandage change. In just a few weeks, the wound had completely healed.


October 26, 2008

Note: CanitrX wound healing gel is in our region marketed under the brand name Aptus' SentrX spray.
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www.orionvet.pl
PUBLICATIONS
Wound healing


Tissue Engineering


General


Aptus® SentrX products are developed to support natural wound healing in animals. Aptus® SentrX products are a vital part of the first aid kit and must be on-hand when you need them.

To find out more visit www.aptuspet.com