DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

[Docket No. FDA–2012–N–0981]

Withdrawal of Approval of New Animal Drug Applications; Butorphanol; Doxapram; Triamcinolone; Tylosin

AGENCY: Food and Drug Administration, HHS.

ACTION: Notice.

SUMMARY: The Food and Drug Administration (FDA) is withdrawing approval of a new animal drug application (NADA) and three abbreviated new animal drug applications (ANADAs) at the sponsors’ request because the products are no longer manufactured or marketed.

DATES: Withdrawal of approval is effective October 15, 2012.

FOR FURTHER INFORMATION CONTACT: David Alterman, Center for Veterinary Medicine (HFV–212), Food and Drug Administration, 7519 Standish Pl., Rockville, MD 20855, 240–453–6843, email: david.alterman@fda.hhs.gov.

SUPPLEMENTARY INFORMATION: The following sponsors have requested that FDA withdraw approval of the NADA and ANADAs listed in table 1 of this document because the products are no longer manufactured or marketed.

<p>| TABLE 1—NADA AND ANADAS FOR WHICH WITHDRAWAL OF APPROVAL HAS BEEN REQUESTED |
|-----------------------------|-------------------|-----------------------|</p>
<table>
<thead>
<tr>
<th>NADA/ANADA No.</th>
<th>Trade name (drug)</th>
<th>Applicant</th>
</tr>
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<tbody>
<tr>
<td>200–446</td>
<td>BUTORPHINE (butorphanol tartrate) Injection</td>
<td>Modern Veterinary Therapeutics, LLC, 18001 Old Cutler Rd., Suite 317, Miami, FL 33157.</td>
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Therefore, under authority delegated to the Commissioner of Food and Drugs and redelegated to the Center for Veterinary Medicine, and in accordance with §514.116 Notice of withdrawal of approval of application (21 CFR 514.116), notice is given that approval of NADA 100–556 and ANADAs 200–435, 200–446, and 200–459, and all supplements and amendments thereto, is hereby withdrawn, effective October 15, 2012.

Elsewhere in this issue of the Federal Register, FDA is amending the animal drug regulations to reflect the voluntary withdrawal of approval of these applications.

Dated: September 27, 2012.

Bernadette Dunham, Director, Center for Veterinary Medicine.

BILLING CODE 4160–01–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Government-Owned Inventions; Availability for Licensing

AGENCY: National Institutes of Health, Public Health Service, HHS.

ACTION: Notice.

The inventions listed below are owned by an agency of the U.S. Government and are available for licensing in the U.S. in accordance with 35 U.S.C. 207 to achieve expeditious commercialization of results of federally-funded research and development. Foreign patent applications are filed on selected inventions to extend market coverage for companies and may also be available for licensing.

FOR FURTHER INFORMATION CONTACT: Licensing information and copies of the U.S. patent applications listed below may be obtained by writing to the indicated licensing contact at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, Rockville, Maryland 20852–3804; telephone: 301–496–7057; fax: 301–402–0220. A signed Confidential Disclosure Agreement will be required to receive copies of the patent applications.

A Novel Immortalized Human Adrenal Cell Line With Inactive Protein Kinase A for Studies on cAMP Signaling and Endocrine Tumorigenesis

Description of Technology: The first known immortalized cell line with a naturally-occurring inactivating mutation in PRKAR1A, the regulatory subunit type 1A (R1alpha) of protein kinase A (PKA), which is associated with tumor formation.

PKA isoyme balance is critical for the control of cAMP signaling and related cell cycle and proliferation changes. Aberrant CAMP signaling has been linked to adrenocortical and other, mostly endocrine, tumors. Inactivating mutations in the PRKAR1A gene are a known cause of Carney Complex—an autosomal dominant multiple neoplasia syndrome associated with skin, heart, and other myxomas and a variety of endocrine tumors.

Potential Commercial Applications:

• Studies on multiple tumor formation associated with Carney Complex.
• Characterization of cAMP-mediated mechanisms of endocrine tumor formation.
• Studies of a large variety of cAMP-mediated processes in normal physiology and disease.

Competitive Advantages: First known immortalized cell line with a naturally-occurring inactivating mutation in the PRKAR1A gene.

Development Stage: In vitro data available.

Inventor: Constantine A. Stratakis (NICHD).

Publication: Nesterova M, et al. An immortalized human cell line bearing a PRKAR1A-inactivating mutation: effects of overexpression of the wild-type
Allele and other protein kinase A subunits, J Clin Endocrinol Metab. 2008 Feb;93(2):565–71. [PMID 18056771].


**Licensing Contact:** Patrick McCue, Ph.D.; 301–435–5560; mccuepat@mail.nih.gov.

**Collaborative Research Opportunity:** The Eunice Kennedy Shriver National Institute of Child Health and Human Development is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate or commercialize this technology. For collaboration opportunities, please contact Joseph Conrad III, Ph.D. at jmconrad@mail.nih.gov.

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**Modulation of Regulatory T-Cell and B-Cell Lymphocytes for the Treatment of Autoimmune and Other Disease Indications**

**Description of Technology:** A method of modulating the immune response by affecting the activity of the regulatory lymphocytes through targeting of the Hepatitis A Virus receptor 1 (HAVCR1) receptor. This methodology can be developed for the treatment of autoimmune diseases, allergies, prevention of transplant rejection, and incorporated into therapeutic strategies for cancer.

Regulatory lymphocytes, such as regulatory T-cells (Tregs) and B-cells (Bregs), play a significant role in suppressing and controlling immune responses to antigens, including allergens and self-antigens that induce autoimmune diseases. The Tregs and Bregs also control the immune responses to microbial pathogens thereby limiting excessive damage to tissue. HAVCR1 is expressed on these regulatory lymphocytes and functions as a master regulator of these cells.

**Potential Commercial Applications:**
- Treatment of Autoimmune Diseases.
- Treatment of Allergies.
- Prevention of Rejection of Allogenic Transplants.
- Cancer Therapy.
- Immunotherapies.
- Stimulate Response to Vaccines (adjuvant).

**Competitive Advantages:** Can be used to target multiple disease states.

**Development Stage:**
- Early-stage.
- Pre-clinical.
- In vitro data available.

**Inventors:** Gerardo Kaplan, Mohanraj Manangeeswaran, Jerome Jacques, Krishnamurthy Konduru (all of FDA).


**Licensing Contact:** Kevin W. Chang, Ph.D.; 301–435–5018; changke@mail.nih.gov.

**Collaborative Research Opportunity:** The Center for Biologics Evaluation and Research, Laboratory of Emerging Pathogens, is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate or commercialize targeting of HAVCR1 to control Treg and Breg function in human diseases. For collaboration opportunities, please contact Gerardo Kaplan at gerardo.kaplan@fda.hhs.gov.

A Method To Expand a Population of Regulatory T Cells Optimal for the Treatment of Autoimmune Diseases

**Description of Technology:** The transfusion of regulatory T cells (Tregs) has been used in the clinic to successfully prevent graft vs. host disease and is currently being evaluated in the treatment of other autoimmune diseases, such as organ graft rejection, type 1 diabetes and multiple sclerosis. Prior to transfusion, adoptive regulatory T cell transfer requires the expansion of regulatory T cells in culture; this results in a mixed population of regulatory T cells that limits the effectiveness of the transferred cells.

Scientists at the NIH have developed a method that promotes the expansion of regulatory T cells that are longer lived, more stable, and more suppressive of the autoimmune response. By supplementing T cell cultures with DNA oligonucleotides, the inventors were able to enrich the regulatory T cell population that enhanced the suppression of the autoimmune response. This method has the potential to more effectively generate regulatory T cells for the treatment of autoimmune diseases.

**Potential Commercial Applications:**
- More effective therapy when compared to traditional T cell expansion methods.
- Expansion method is inexpensive and similar to current methods.

**Development Stage:** In vitro data available.

**Inventors:** Yong Chan Kim and Ethan M. Shevach (NIAIM).


**Licensing Contact:** John Stansberry, Ph.D.; 301–435–5236; stansbej@mail.nih.gov.

**Peptides for Treatment of Tumor Necrosis Factor Alpha Mediated Inflammatory Disease**

**Description of Technology:** Tumor Necrosis Factor alpha (TNF-alpha) is a multifunctional cytokine that mediates inflammation, immune regulation, and cellular proliferation. This cytokine is converted to its active form by TNF-alpha converting enzyme (TACE). Pathological increases in TNF-alpha activity have been associated with a wide variety of inflammatory diseases, including inflammatory bowel disease, rheumatoid arthritis, and cancer. Inhibiting the conversion of TNF-alpha to its active form by inhibiting TACE represents a potential treatment for these diseases.

The current technology provides sequences derived from an N-terminal fragment of the TACE protein, that inhibit TACE activity. Also described are methods of using these peptides to lower levels of active TNF-alpha. These peptides could be used as a treatment for TNF-alpha-mediated inflammatory diseases.

**Potential Commercial Applications:**
- Treatment of TNF-alpha mediated inflammatory diseases.
- **Competitive Advantages:** Inhibition of TACE activity represents a novel mechanism to treat inflammatory disease.

**Development Stage:**
- Early-stage.
- In vitro data available.

**Inventors:** Stewart J. Levine et al. (NHLBI).

Human Antibodies and Fusion Proteins With Potent and Broad HIV–1 Neutralizing Activity

Description of Technology: The inventions listed below provide multiple novel human anti-HIV–1 domain antibodies (m36 and its affinity-matured versions) and their fusion proteins with two-domain or single-domain human soluble CD4 (sCD4) that can potentially be used alone or synergistically with other anti-HIV–1 antibodies and antiretroviral drugs as therapeutics and/or preventatives for infection by different HIV–1 strains.

Some of the inventions listed below also describe some fusion proteins as vaccine immunogens that could elicit broadly neutralizing antibodies against HIV-isolates from different clades. One invention also describes the methods to prepare and use the immunogens in the vaccination for prevention of HIV–1 infections. More specifically, the later invention provides a vaccine composed of a primary immunogen and a secondary immunogen, and a method for making the vaccine which could be effective in eliciting desired broadly neutralizing antibodies. The primary immunogen could be effective in activating B cell receptors (BCRs) that are on the maturational pathways of the desired antibodies and have an intermediate degree of somatic mutational diversity. The secondary immunogen contains epitopes of the desired antibodies and could be effective in further diversifying the BCRs sufficiently to form mature BCRs that have the identical or substantially identical sequence as the desired antibodies.

Potential Commercial Applications: Treatment and prevention of HIV–1 infections.

Competitive Advantages:
- Elicits broadly neutralizing antibodies against HIV–1 isolates from different clades.
- Potentially elicits antibodies that are not regulated by tolerance mechanisms.
- Novel methods to design vaccines for HIV–1 treatment and prevention.
- May also be used for designing vaccines for cancer treatment.
- Relatively small size allows for potential penetration into lymphoid tissues.

Development Stage:
- In vitro data available.
- In vivo data available (animal).

Inventors: Dimiter Dimitrov and Weizao Chen (NCI).

Publications:

Intelectual Property:

Collaborative Research Opportunity: The NCI CCR Nanobiology Program is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate or commercialize m36, single domain sCD4, and related fusion proteins as candidate therapeutics against HIV–1. For collaboration opportunities, please contact John Hewes, Ph.D. at hewesj@mail.nih.gov.

Dated: September 27, 2012.

Richard U. Rodriguez,
Director, Division of Technology Development and Transfer, Office of Technology Transfer, National Institutes of Health.
[FR Doc. 2012–24251 Filed 10–2–12; 8:45 am]