

K050058 P 1/2

MAY 17 2005

**510(k) Summary**  
(21 CFR Part 807.92)

A. Submitter Information

Submitter's Name: Theken Surgical  
Address: 283 E. Waterloo  
Akron, Ohio 44319  
Telephone Number: 330-773-7677 x221  
Fax Number: 330-773-7697  
Contact Person: Randy Theken  
Date Prepared: 5/16/2005 4:50 PM

B. Device Information

Trade Name: Theken VU Vertebral Body Replacement (VBR) SYSTEM  
Common Name: Vertebral Body Replacement Device  
Classification Name: Spinal Intervertebral Body Fixation Orthosis (per 21 CFR 888.3060)  
Device Classification: Class II (per 21 CFR 888.3060)  
Panel: Orthopedic, Product Code: MQP, Panel Code: 87  
Predicate Device: Theken Surgical LLC CPOD/LPOD VBR System (K032064)  
Comparative Devices: SIGNUS Medical LLC Tetris™ Spinal Implant (K022793)  
Synthes Spine Company, L.P.  
Synthes Synex™ Spacer System (K003836)  
Osteotech Inc., VBR™ (K003155)  
DePuy AcroMed, Inc. Stackable Cage™ System (K990148)  
SIGNUS Medical LLC Curved PEEK Tetris™ (K041888)  
Polyetheretherketone (PEEK OPTIMA LT) per ASTM F2026.  
Material Composition: Theken VU VBR SYSTEM is comprised of rounded rectangular and rectangular cages with fenestrations and radii on all sides and toothed spikes which are used in combination with spacer components. The cages and spacer can be locked together into a variety of geometric configurations to fit each individual patient's pathology. The toothed spikes of the rounded rectangular and rectangular cages engage with the superior and inferior end plates of the neighboring vertebral bodies to resist rotation and migration. A single construct is sufficient to be used at all spinal levels and pathologies.  
Subject Device Description:  
Intended Use: Theken VU VBR SYSTEM is indicated for use in the thoracolumbar spine (T1-L5) to replace a collapsed, damaged, or unstable vertebral body due to tumor or trauma (e.g., fracture).  
Theken VU VBR SYSTEM is designed to restore the biomechanical integrity of the anterior, middle, and posterior spinal column even in the absences of fusion for a prolonged period. Bone graft material is recommended to be packed into the interior openings of the device prior to implantation.  
Theken VU VBR SYSTEM is intended to be used with supplemental internal spinal fixation systems, such as the Theken BodyForm Thoracolumbar Fixation System (K983622, Approved 12/98) or the Theken Coral Pedicle Screw System (K041592, Approved 9/04).

### C. Substantial Equivalence

The technological characteristics of the Theken VU VBR SYSTEM are similar to the following predicate devices:

- 1) CPOD/LPOD VBR System (K032064), manufactured by Theken Surgical LLC and cleared by the FDA on February 20, 2004.
- 2) Tetris™ Spinal Implant (K022793), manufactured by SIGNUS Medical LLC and cleared by the FDA on April 8, 2003.
- 3) Synthes Synex™ Spacer System (K003836), manufactured by Synthes Spine Company, L.P. and cleared by the FDA on May 29, 2001.
- 4) VBR (K003155), manufactured by Osteotech Inc. and cleared by the FDA on October 16, 2001.
- 5) Stackable Cage™ System (K990148), manufactured by DePuy AcroMed, Inc. and cleared by the FDA on September 3, 1999.
- 6) Curved PEEK Tetris™ (K041888), manufactured by SIGNUS Medical LLC and cleared by the FDA on July 9, 2004.

Establishment of equivalence is based on similarities of intended use, design, and physical characteristics. All implants are used to treat the same conditions, have essentially the same precautions and contradictions for use, and have equivalent potential for complications for the risk of use. In addition they all represent a basic design concept in terms of safety and effectiveness, and differ only in minor details. Based on the design concept, the use of established well known materials, feature comparisons, mechanical testing, indications for use, pre-production quality assurance planning and engineering analysis (adherence to GLP), Theken Surgical believes that sufficient evidence exists to reasonably conclude that the VU VBR SYSTEM is substantially equivalent to existing legally marketed devices.



MAY 17 2005

Food and Drug Administration  
9200 Corporate Boulevard  
Rockville MD 20850

Mr. Randy Theken  
Theken Surgical, LLC  
283 E Waterloo Road  
Akron, Ohio 44319

Re: K050058  
Trade/Device Name: Theken VU VBR System  
Regulation Number: 21 CFR 888.3060  
Regulation Name: Spinal intervertebral body fixation orthosis  
Regulatory Class: Class II  
Product Code: MQP  
Dated: May 9, 2005  
Received: May 12, 2005

Dear Mr. Theken:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

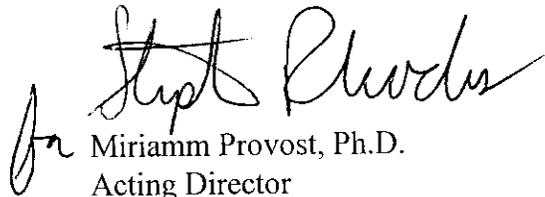
Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820); and if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR 1000-1050.

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This letter will allow you to begin marketing your device as described in your Section 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801), please contact the Office of Compliance at (240) 276-0120. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR Part 807.97). You may obtain other general information on your responsibilities under the Act from the Division of Small Manufacturers, International and Consumer Assistance at its toll-free number (800) 638-2041 or (301) 443-6597 or at its Internet address <http://www.fda.gov/cdrh/industry/support/index.html>.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Miriam Provost". The signature is written in a cursive style with a large initial "M".

Miriam Provost, Ph.D.  
Acting Director  
Division of General, Restorative  
and Neurological Devices  
Office of Device Evaluation  
Center for Devices and  
Radiological Health

Enclosure

