IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

BAVARIAN NORDIC A/S and ANTON MAYR,	)	
Plaintiffs,	)	
v.	)	Civ. No. 05-614-SLR
ACAMBIS INC. and ACAMBIS PLC,	)	
Defendants.	)	

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MEMORANDUM OPINION

Dated: May 15, 2007
Wilmington, Delaware

ROBINSON, Chief Judge

I. INTRODUCTION

Plaintiff Bavarian Nordic A/S ("Bavarian Nordic") is a corporation duly organized and existing under the laws of the nation of Denmark; it maintains its principal place of business in Kvistgard, Denmark. Plaintiff Anton Mayr ("Dr. Mayr") is a German national who resides in Starnberg, Germany. Plaintiffs allege in the instant litigation that defendants Acambis Inc. and Acambis Plc (collectively, "Acambis" or "defendants") are liable for tortious interference and unfair competition based on defendants' commercial use of a certain virus allegedly owned by plaintiffs, that is, "MVA 572 FHE - 22.02.1974" ("MVA 572"). Defendant Acambis Inc. is a corporation duly organized and existing under the laws of the State of Delaware, with its principal place of business located in Cambridge, Massachusetts. Defendant Acambis Plc is a corporation organized and existing under the laws of the nation of the United Kingdom, with its principal place of business located in Cambridge, United Kingdom.

Plaintiffs have moved for summary judgment on their tortious conversion claim. Defendants have moved for summary judgment on all claims. The court has jurisdiction over these matters pursuant to 28 U.S.C. §§ 1331 and 1332.

II. FACTS[1]

This litigation has its genesis in scientific research commenced at the Bavarian State Vaccination Institute ("the Institute") in the 1950s. From 1955 to 1959, plaintiff Dr. Mayr was an employee of the Institute, working under a Professor Herrlich. At the time, the smallpox vaccination was compulsory in the State of Bavaria (and elsewhere) and

[1] The court notes that some parts of the record were submitted in this format. The court suggests that, if it missed something of note in its review, there is good cause (See, e.g., D.I. 123, ex. 3) The court also notes that plaintiffs' failure to include a table of contents for its appendices made it unnecessarily difficult for the court to use the materials submitted.

Professor Herrlich was responsible for its safe manufacture through the Institute. Professor Herrlich believed that the vaccine virus deposited at the Ankara (Turkey) Vaccination Institute was a better, safer virus from which to produce vaccine; he also believed that "by continuing the passaging[2] of the virus, there would be a much reduced risk of post-vaccination encephalitis." (D.I. 113, ex. 5 at 14) At Professor Herrlich's direction, therefore, Dr. Mayr obtained a sample virus from Ankara (the "CVA virus") and "passaged the CVA virus continuously." (Id. at 13)

In 1971, the "Free State of Bavaria, represented by the Bavarian State Interior Ministry," filed a patent application in the Federal Republic of Germany. The named inventors were Prof. Dr. Helmut Stickl and Prof. Dr. Anton Mayr, and the title was "Method for Small Pox Vaccination." (D.I. 123, ex. 7) In the specification, the invention is described as follows:

> [T]he invention is based on the knowledge that, in order to avoid the disadvantages of all previously known vaccination methods against small pox, it is deciding to use a vaccine causing no cutaneous vaccination reactions, such as a formulation of a vaccination pustule.
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> According to the invention this is attained in a method for a vaccination

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[2]An "attenuated" virus "is not able to spread throughout the body. For a virus to be attenuated, the virus must be grown for many generations in a host system that is not the preferred, native host system for the disease. For example, when certain viruses that typically infect mammals are grown in chicken embryo cells for many generations, they will genetically mutate over time and become more efficient at replicating the chicken embryo cells, but less efficient at replicating in mammalian cells. The attenuated virus can then be used as a vaccine against the actual disease-causing virus because of the antibodies that are now produced in the host mammal in response to the virus. In this manner, an attenuated form of the smallpox virus can provide a host mammal with immunity to the actual disease-causing smallpox virus. . . . The term 'passaging' refers to a cycle of growing and harvesting the virus in a tissue or cell culture. A 'passage number' refers to the number of passages or growth cycles the virus has undergone from the initial virus strain." (D.I. 113, ex. 4 at ¶¶ 16-17)

> against small pox such that the vaccination occurs **intracutaneously** with an **attenuated**, modified vaccine. Advantageously, the vaccinia-virus Ankara is used, here, which is bread [sic] in more than 500 passages in chicken fibroblast-cells so that a modified, genetically uniform vaccinia virus is provided, which is weakened in its reactogenity and virulence by said cell passages.

(Id. at 4-5 (emphasis in original)) The dependent claim is "[a] vaccine according to claim 1, characterized in that the vaccine is formed by using the vaccinia virus Ankara, which is bread [sic] in more than 500 passages in chicken - fibroblast cells." (Id. at 7) By patent application filed in the Swiss Confederation in September 1972, once again the "Free State of Bavaria, represented by the Bavarian Ministry of the Interior" asserted that the inventor, Prof. Dr. Stickl, invented a "[p]rocess for culturing a virus intended for producing an inoculant against smallpox" with a preferred embodiment of the process being "characterized in that the Ankara vaccinia virus is cultured in at least 400, preferably more than 500, cell culture passages in swine kidney cells." (D.I. 123, ex. 8)

By 1974, Dr. Mayr was the director of the Institute for Medical Microbiology, Infectious and Epidemic Diseases, Veterinary Faculty, University of Munich ("the University"). (D.I. 116, ex. C) In that year, Dr. Mayr co-authored two articles about MVA. One, entitled "Passage History, Properties, and Use of the Attenuated Vaccinia Virus Strain MVA," was co-authored by "A. Mayr, V. Hochstein-Mintzel and H. Stickl." In describing the passage history of the MVA virus, the authors wrote:

> Since [1963], the CVA-FHE virus was submitted to further passages on FHE cultures. By now, culture passage 570 has been reached and the virus appears to be genetically uniform and stable. The last passages were again cloned by the serial plaque dilution technique. The eggs used for the plaque dishes originated in an approved leukosis-free fowl population. After clinical testing in humans, the CVA-FHE virus was

> designated **MVA Virus** - **m**odified **v**accinia virus **A**nkara - starting with the 516th FHE passage, due to its stability and its changed properties and in order to avoid confusing it with other attenuated vaccinia strains.

(D.I. 116, ex. E at 4 (emphasis in original)) The article goes on to claim that "[t]he MVA virus is suitable for active immuno-prophylaxis against all human and animal diseases caused by orthopoxviruses" and describes the testing done on animals to prove the claim. (Id. at 9-11) "On the application of the MVA virus in humans," the authors "provided a separate report" (id. at 11), that is, the second article entitled "MVA Vaccination Against Smallpox." The second article addresses the clinical testing of MVA by the Institute and the University. By way of background, the authors of the article[3] explained that,

> [f]or many years, an attenuated vaccinia virus has been under testing in animal experiments at the . . . Institute. This virus, which has been referred to in the course of these experiments as the "MVA" strain (modified vaccinia virus Ankara strain) has proven to be aviral in animal experiments. On the basis of findings on primates, it has been used to produce vaccine and has ultimately been used clinically on patients. The findings obtained in this regard are the subject matter of the present article.

(D.I. 123, ex. 5 at AC0012993) The article goes on to state that the

> [v]accinia virus Ankara strain was attenuated by Mayr in continuous passages on cell cultures of embryonal chick fibroblasts. The attenuated virus was assigned the identification CVA-HFE. Its properties were characterized for the first time by Mayr and Munz[4] in the 371st passage. According to the results of experiments, the cultured virus differed

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[3]H. Stickl, V. Hochstein-Mintzel, A. Mayr, H. Ch. Huber, H. Schafer and A. Holzner. In the article, all but Dr. Mayr are identified as being associated with the Institute. (D.I. 123, ex. 5 at AC0012999)

[4]At this point, reference is made to a 1964 article co-authored by Dr. Mayr and "E. Munz": "Change in vaccine virus due to permanent passages in chicken embryo fibroblast cultures." (See D.I. 123, ex. 5 at AC0012999 n.14)

> significantly from the starting virus. The essential feature of the cultured virus was the great reduction in virulence in the animal experiment. Vaccinia virus strain CVA-FHE was taken over in the 516th passage by the . . . Institute and was continued on cell cultures of embryonal chick fibroblasts.

(Id. at AC0012994)

There is no contemporary record of precisely where or when MVA 572 was created. None of the contemporary documents that were produced of record contain any declaration suggesting that Dr. Mayr "owned" the MVA virus. Nonetheless, at least by the 1990s, Dr. Mayr was

> the known source of MVA. He had been sharing it. He had developed -- it was developed by taking a replication competent vaccinia and passaging it hundreds of hundreds of times and found it was no longer replication competent in a lot of cells. And had published this work in the '70s and was sharing it with pox virologists around the world. If you wanted MVA, you went to Dr. Mayr.

(D.I. 116, ex. D at 121)

Among those working with MVA in the 1980s and 1990s was a Dr. Gerd Sutter, a graduate student in Dr. Mayr's laboratory. By 1988, Dr. Sutter developed "MVA-F6" by further passaging MVA 572. (D.I. 113, ex. 17) Dr. Sutter brought the F6 isolate of MVA to the National Institutes of Health ("NIH") after completing his dissertation. In 1992, Dr. Sutter and Dr. Bernard Moss of the NIH[5] "reported that MVA expressed both vaccinia viral and recombinant proteins at a high level in non-permissive human cells and suggested that MVA would make a safe and efficient vector for vaccines." (Id., ex. 28) Although the F6 strain was appropriate for "'expression vector work' in the laboratory,"

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[5]At the time, Dr. Moss was Chief, Laboratory of Viral Diseases, Division of Intramural Research, National Institute of Allergy and Infectious Diseases ("NIAID") of the NIH (hereafter the NIAID and NIH shall be referred to collectively as the "NIH").

in 1995 Dr. Moss contacted Dr. Mayr "to request MVA from an original vial of either a vaccine lot or a master seed for the purpose of producing recombinant vaccines for clinical use." (Id.) By letter dated September 19, 1995, Dr. Mayr responded:

> Thank you for your interest in our MVA-strain. We are able to send you some samples of our
> - seed virus and
> - vaccine.
> 1) seed virus: "MVA"
> 2 vials: 575. FHE-Pass .v. 14.12.83
> 2 ml (freeze-dried)
> 2) vaccine: "Vacc. - Virus MVA"
> 3 vials: II/85
> 1 ml (freeze-dried)

(D.I. 113, ex. 24) There was no written agreement between Dr. Mayr and Dr. Moss explicitly restricting the use or transfer of the MVA strains provided to Dr. Moss. (D.I. 113, ex. 5 at 20; id., ex. 36 at 36)

By 1996, Dr. Sutter was working with his F6 strain in collaboration with Bavarian Nordic. (D.I. 113, ex. 18; D.I. 116, ex. K) Also in 1996, Bavarian Nordic and Dr. Mayr entered into an agreement under which Dr. Mayr was to serve as a consultant to Bavarian Nordic and Bavarian Nordic was given

> the exclusive and sole access to MVA vaccine stock and MVA viral stock in the possession of MAYR. Bavarian Nordic recognizes that, in the scientific community, there is a growing interest in performing basic non-commercial research including the MVA vector. Bavarian Nordic agrees not to unreasonably use its exclusivity to the MVA system to hinder basic research by third party non-commercial academia including the MVA system by rejecting access to the MVA system.
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> Neither Bavarian Nordic nor MAYR shall make any public announcement about the present agreement.

(D.I. 113, ex. 44) Bavarian Nordic did not conduct any extensive due diligence in order to confirm that Dr. Mayr "owned" the "MVA system." (D.I. 123, ex. 13 at 24) The above

agreement was extended in 1999, 2001, and 2003, with virtually no changes to the language. (D.I. 116, ex. M) According to Dr. Mayr, he did not read the agreement; he "was told that this was a contract in [his] favour and for that reason [he] signed it." (D.I. 113, ex. 5 at 34) By 1999, Dr. Mayr was taking credit for "succeed[ing] in attenuating the dermal vaccinia strain **Ankara (CVA)** through 572 continuous passages in primary chicken embryo fibroblast cultures (CEF) from Valo eggs in such a way that the above-mentioned disadvantages (postvaccinal complications, cutaneous application) no longer applied." (D.I. 116, ex F at BNITC00091893 (emphasis in original))

By letter dated August 3, 2001, Dr. Moss again wrote to Dr. Mayr regarding the MVA stock:

> Gerd Sutter told me the good news that you have been able to locate an early sample of MVA in your freezer and have agreed to send it to me. I wish to thank you for your generosity in this regard. As you are aware, MVA has taken on a new life as the premier vaccinia virus vector. I have enclosed a reprint of a recent paper that clearly illustrates the great potential value of MVA.
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> I understand that Gerd will help with the shipping of the MVA. He has also indicated that he is willing to help with a draft of a letter of authentication of the MVA in order to satisfy the regulatory agencies here.
>
> Again, I thank you for your kindness in this matter.

(D.I. 113, ex. 25) In response, Dr. Mayr wrote on September 12, 2001 as follows:

> In response to your request for an early sample of vaccinia virus MVA I was happy to provide you with the material MVA 572 FHE - 22.02.1974.
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> This virus material represents lyophilized tissue culture material from the 572nd passage of MVA on primary chicken embryo fibroblasts harvested February 22, 1974 and originates from the vaccinia virus MVA developed and passaged at the Institut fur Mikrobiologie und Infektionskrankheiten der Tiere, Ludwig-Maximilians-Universitat Munchen (see Mayr et al. 1975, *Passage history, properties and applicability of the attenuated vaccinia virus strain MVA,* Infection 3:6-14).

> Propogation in chicken embryo fibroblasts through two plaque purification passages (MVA 569.FHE - 12.02.74 and MVA 570.FHE - 15.02.74) and amplifying passage (MVA 571.FHE - 19.02.74) resulted in the virus stock MVA 572.FHE - 22.02.1974 which was titrated . . . and lyophilized as standard MVA seeding material. This virus material has been stored at the Institute under my control since that time.

(Id., ex. 27 (italics in original)) There was no written agreement between Dr. Mayr and Dr. Moss explicitly restricting the use or transfer of the MVA strains provided to Dr. Moss. (Id., ex. 5 at 20; id., ex. 36 at 36)

In July 2002, the NIH wrote a letter to Bavarian Nordic "summarizing [its] understanding of the conditions under which the [NIH] received from [Dr. Mayr] . . . the lyophilized preparation of vaccinia virus MVA known as 'MVA 572.FHE - 22.02.1974'" and "to confirm the [NIH's] intention to use and make available to other parties progeny and derivatives of the material that have been developed by Dr. Bernard Moss." (Id., ex. 35) On August 15, 2002, the NIH issued a "Request for Proposal" ("RFP") for the "Development and Testing of a Modified Vaccinia Ankara (MVA) Vaccine." (Id., ex. 32) In this regard, the NIH provided access to "a master seed stock of MVA." By a Materials Transfer Agreement ("MTA") dated September 27, 2002, defendant Acambis Inc. received "Modified Vaccinia Ankara (MVA) virus 572.FHE - 22.02.1974, as described in Mayr et al., Passage history, properties and applicability of the attenuated vaccinia virus strain MVA, *Infection* 3:6-14 (1975) and which was plaque purified by Dr. Bernard Moss of the [NIH]." (Id., ex. 39 (italics in original))

By letter dated November 6, 2002, Dr. Mayr wrote to Dr. Moss, expressing his concern "regarding the commercialization by the NIH of MVA" through the "recent RFP (NIH-NIAID-DMID-03-44)," as he had "provided MVA to academic partners for research

purposes only." (Id., ex. 34) On March 24, 2004, plaintiffs entered into a "Supplemental Agreement" "to resolve any ambiguity and/or mistake in the Agreement concluded 15 NOV 2002." (Id., ex. 46) Through the Supplemental Agreement, the MVA strains referred to in the previous agreements included "[a]ny MVA vaccine stock and MVA viral stock developed by and/or in the possession of Dr. MAYR or derivatives thereof, including but not limited to" "MVA-572 acc. No. V94012707 27th January 1974" and "MVA-575 acc. No. V00120707 7th December 2000." (Id.) Dr. Mayr represented in this agreement that "[h]aving possibly distributed to others on previous occasions said MVA strains, such distribution having been strictly for non-commercial purposes only." (Id., ex. 46)

The contract awards under the first two NIH RFPs were split between Bavarian Nordic and Acambis.[6] (Id., ex. 4 at 4-5) On August 19, 2005, Bavarian Nordic filed suit against defendants. Dr. Mayr was added as a plaintiff by amended complaint filed August 23, 2006. (D.I. 85) Bavarian Nordic has been awarded the contract under the third NIH RFP; the NIH has not been sued by plaintiffs.

III. STANDARD OF REVIEW

A court shall grant summary judgment only if "the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(c). The moving party bears the burden of proving that no genuine issue of material fact exists. See Matsushita

[6]The second RFP was entitled "Production and Acquisition of MVA Vaccine." (D.I. 113, ex. 32)

Elec. Indus. Co. v. Zenith Radio Corp., 475 U.S. 574, 586 n.10 (1986). "Facts that could alter the outcome are 'material,' and disputes are 'genuine' if evidence exists from which a rational person could conclude that the position of the person with the burden of proof on the disputed issue is correct." Horowitz v. Fed. Kemper Life Assurance Co., 57 F.3d 300, 302 n.1 (3d Cir. 1995) (internal citations omitted). If the moving party has demonstrated an absence of material fact, the nonmoving party then "must come forward with 'specific facts showing that there is a genuine issue for trial.'" Matsushita, 475 U.S. at 587 (quoting Fed. R. Civ. P. 56(e)). The court will "view the underlying facts and all reasonable inferences therefrom in the light most favorable to the party opposing the motion." Pa. Coal Ass'n v. Babbitt, 63 F.3d 231, 236 (3d Cir. 1995). The mere existence of some evidence in support of the nonmoving party, however, will not be sufficient for denial of a motion for summary judgment; there must be enough evidence to enable a jury reasonably to find for the nonmoving party on that issue. See Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 249 (1986). If the nonmoving party fails to make a sufficient showing on an essential element of its case with respect to which it has the burden of proof, the moving party is entitled to judgment as a matter of law. See Celotex Corp. v. Catrett, 477 U.S. 317, 322 (1986).

IV. ANALYSIS

A. Tortious Conversion

1. Choice of law

To determine the relevant law to be applied in resolving the tortious conversion claim, a federal court sitting in a diversity case must apply the conflict of laws rules of

the state in which it is sitting. See Klaxon Co. v. Stentor Electric Mfg. Co., 313 U.S. 487 (1941). Delaware courts apply the "most significant relationship test" to determine which state law governs in an action. See Hill v. Equitable Trust Co., 562 F. Supp. 1324, 1334 (D. Del. 1983). The factors that must be considered in the most significant relationship test are: "(a) the place where the injury occurred, (b) the place where the conduct causing injury occurred, (c) the location of the parties, and (d) the place where the relationship between the parties is centered." Calloway Golf Co. v. Dunlop Slazenger Group Ams., Inc., 295 F. Supp. 2d 430, 434 (D. Del. 2003) (citation omitted).

Both the States of Maryland and Massachusetts have significant relationships with the conduct at issue. In the first instance, the NIH has its facilities in Bethesda, Maryland. It appears from the record that all of the NIH's activities relating to the MVA strain - e.g., preparation of the seed stock clones, offering and sending the strain to others for collaboration, correspondence with plaintiffs regarding rights to use the strain - took place at its Maryland facilities. Acambis's conduct relating to the strain took place largely in Massachusetts. It received the strain from NIH at its laboratories in Cambridge, Massachusetts; executed the MTA with NIH and prepared and filed its RFP responses from its offices in Cambridge; and is now storing the 505,000 doses of MVA3000 - the subject of plaintiffs' damages claim - for the U.S. Government at its facilities in Massachusetts.

With respect to the above factors, the court concludes that the relationship between the parties is centered in Maryland. Plaintiffs and defendants do not have a relationship per se; their dispute arises out of the relationship between Drs. Mayr and Moss. Plaintiffs' conversion claim against defendants is grounded on the assertion that

the NIH did not have the right to transfer the MVA 572 to Acambis Inc. pursuant to the RFPs.[7] Because Dr. Moss and the NIH are located in Maryland, and the NIH's activities took place in Maryland, Maryland has the most significant relationship to the instant dispute.

The two remaining factors[8] focus on the injury claimed by plaintiffs. Apparently, plaintiffs concede that their injury is not the intangible "right to commercialize" MVA 572.[9] Rather, plaintiffs assert that their injury is related to the physical possession and manipulation of MVA 572 by Acambis Inc., which occurred in Massachusetts. Looking just at these factors, Massachusetts has the most significant relationship to the instant dispute.

Because the court finds that the law of conversion does not differ as between Maryland and Massachusetts, the court will analyze the dispute with both in mind.

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[7]If the NIH were deemed to have unrestricted use of said material, plaintiffs ipso facto would have no cause of action against defendants.

[8]The factor relating to the location of the parties is not of any moment to the issues at bar.

[9]Neither Maryland nor Massachusetts recognizes a claim for conversion of an intangible property right, except where the right is "merged" into a transferable document representing title to the physical property. See, e.g., Orteck Int'l, Inc. v. TransPac. Tire & Wheel, Inc., Civ. A. No. DKC 2005-2882, 2006 WL 2572474, at *22 (D. Md. Sept. 5, 2006); Jayson Assocs., Inc. v. UPS, Civ. A. No. 04-10771-RWZ, 2004 WL 1576725, at *2 (D. Mass. July 15, 2004).

2. Discussion[10]

To prevail on the theory of conversion, a plaintiff must demonstrate that a defendant has "wrongfully exercised ownership of, or control or dominion over, personal property to which he has no right of possession at the time." Discover Realty Corp. v. David, 2003 Mass. App. Div. 172, 2003 WL 22387138, at *3 (Mass. Dist. Ct. Oct. 14, 2003) (citation omitted). See also Evergreen Marine Corp. v. Six Consignments of Frozen Scallops, 4 F.3d 90, 95 (1st Cir. 1993) ("A plaintiff asserting a conversion claim under Massachusetts law must show that: (1) the defendant intentionally and wrongfully exercised control or dominion over the personal property; (2) the plaintiff had an ownership or possessory interest in the property at the time of the alleged conversion; (3) the plaintiff was damaged by the defendant's conduct . . . ."); Orteck, 2006 WL 2572474, at *22 ("Under Maryland law, a conversion 'is any distinct act of ownership or dominion exerted by one person over the personal property of another in denial of his right or inconsistent with it.'" (citation omitted)).

The facts of this case do not fit comfortably into the standard paradigm of a conversion claim, for several reasons. First, consistent with its descendance from the old common law action of trover,[11] conversion cannot lie in the absence of the physical possession of the actual good or chattel owned by the plaintiff. In this case, there is no

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[10]Because plaintiffs have moved for summary judgment on their conversion claim and would bear the burden of proof at trial on this claim, the court declines to view the facts in the light most favorable to them.

[11]"Trover" is an action which "originated at an early date as a remedy against the finder of lost goods who refused to return them to the owner but instead 'converted' them to his own use." Restatement (Second) of Torts § 222A cmt. a (1965).

dispute that neither Bavarian Nordic nor even Dr. Mayr ever had physical possession of the specific material actually given to Acambis by the NIH, as Dr. Mayr's MVA virus 572.FHE - 22.02.1974 was "plaque purified" and cloned by Dr. Moss before distribution. Certainly, plaintiffs have never had possession of the "progeny" of the MVA-572. Therefore, even if the law supports the proposition that the physical possession of copies of a chattel may be a basis for conversion, the court has found no cases where the chattel sought to be returned was never in the actual possession of the alleged owner.[12] Moreover, there is case law standing for the proposition that conversion is not vindicable unless a defendant has exercised **exclusive** control over the property. See, e.g., Scollard v. Brooks, 49 N.E. 741, 741 (Mass. 1898) ("Conversion may be shown by the exercise of control over the property, inconsistent with the right of the owner, and by excluding him from the possession or depriving him of it."); Duty Free Ams., Inc. v. Legg Mason Wood Walker, Inc., Civ. A. No. 24-C-04-005696, 2005 WL 914395, at *2 (Md. Cir. Ct. Jan. 13, 2005) ("A conversion 'requires not merely temporary interference with property rights, but the exercise of dominion and control to the complete exclusion of the rightful possessor.'" (quoting Yost, 589 A.2d at 1303)). There is no question but that Bavarian Nordic has had possession and use of MVA stock, albeit not the same sample of MVA 572 as Acambis.

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[12]See, e.g., First Union Nat'l Bank v. N.Y. Life Ins. & Annuity Corp., 152 F. Supp. 2d 850, 854 (D. Md. 2001); Data Gen. Corp. v. Grumman Sys. Support Corp., 795 F. Supp. 501, 505-06 (D. Mass. 1992) (Grumman's use of many versions of Data General's software established a "colorable claim that Grumman converted valuable physical property of Data General."); cf. Yost v. Early, 589 A.2d 1291, 1303 (Md. 1991) ("Merely removing one of a number of copies of a manuscript (with or without permission) for a short time, copying parts of it, and returning it undamaged, constitutes far too insubstantial an interference with property rights to demonstrate conversion.").

Because plaintiffs were never in actual possession of the MVA 572 they seek to recover in this conversion action, the question arguably remains whether they "had the right to immediate possession in the converted asset." First Union Nat'l Bank, 152 F. Supp. 2d at 854. The court concludes that plaintiffs have failed to carry their burden of proof in this regard. As noted above, there are no contemporary (i.e., circa 1974) records of Dr. Mayr's laboratory work, in order to confirm where and for whom the MVA research was performed. Of the contemporary records submitted (two published articles and two patent applications), it is clear that Dr. Mayr was collaborating with scientists at the Institute. Indeed, in these public documents, Dr. Mayr does not claim to "own" MVA.

Aside from his physical possession of MVA stock, Dr. Mayr relies on the "German professorial privilege" to establish his ownership interest in the MVA 572 transferred to the NIH. The privilege gives to professors at German universities the rights of ownership over the fruits of their research; it is not applicable, however, to research performed at or for government agencies, such as the Institute. (D.I. 123, ex. 11 at 86-88) Again, there is no persuasive evidence of record that Dr. Mayr's work was his alone, done solely in his role as a professor at the University.

Even if this court were to assume that Dr. Mayr had an ownership or possessory interest in the MVA 572, the record demonstrates that Dr. Mayr transferred the MVA 572 to the NIH without restriction. Clearly, none of the transactions between Dr. Mayr and Dr. Moss were subject to any written restrictions; the typical kinds of proprietary rights in MVA 572 were not extant, as any patent rights would have expired and the material had been widely distributed over the years by Dr. Mayr. Although the experts

disagree as to whether "it is customarily understood that [shared biological] materials are to be used by the recipient for research and not for commercial purposes" (see, e.g., D.I. 123, ex. 27 at ¶¶ 44-45), the court concludes that the expert opinion of Prof. Dr. Winfried Tilmann demonstrates that, under German law, a transfer of ownership rights regarding MVA 572 took place between Dr. Mayr and Dr Moss/NIH. (D.I. 123, ex. 12)[13] Finally, the record indicates that Dr. Moss began working with derivatives of MVA 572 as early as 1995, and was publishing the results of his work. Unlike Dr. Moss, who was openly researching the benefits of MVA 572, the business relationship between Bavarian Nordic and Dr. Mayr was kept secret, foreclosing the possibility of notice to scientists like Dr. Moss that the benefits of their MVA research may be subject to disputes such as the one at bar. The court has found no case law to support plaintiffs' theory that Dr. Mayr's unexpressed beliefs about the restricted use of MVA 572 and his unexpressed obligations to Bavarian Nordic are sufficient to constitute a "right to immediate possession in the converted asset." In short, the facts of record do not satisfy the requirements for the tort of conversion.

B. Unfair Competition Claims

Plaintiffs claim that defendants have "engaged in deceptive trade practices by passing off MVA3000, [defendants'] version of the MVA-based vaccine, as a product of its own research and development, to the NIAID NIH and the smallpox vaccine industry," in violation of the Lanham Act, 15 U.S.C. §§ 1051 et seq., and Delaware's Deceptive Trade Practices Act, 6 Del. C. §§ 2531 et seq.. In order to prevail on either

[13]Plaintiffs' expert on German law lacks sufficient expertise to overcome summary judgment in this regard.

of these claims, of course, plaintiffs' must have a proprietary interest in the MVA 572 transferred from Dr. Mayr to the NIH. For purposes of the following discussion, the court will assume such is the case.

1. Unfair competition under the Lanham Act

Plaintiffs assert that defendants have passed off the MVA3000 vaccine product as their own. Reverse passing off occurs when one company sells another company's product as its own. See, e.g., Gen. Universal Sys., Inc. v. Lee, 379 F.3d 131, 148 n.41 (5th Cir. 2004). To prove a claim for reverse passing off, plaintiffs must demonstrate that defendants made false or misleading statements or descriptions of fact that are likely to cause confusion or mistake as to the origin of defendants' "product." See 15 U.S.C. § 1125(a)(1)(A). The Supreme Court, in Dastar Corp. v. Twentieth Century Fox Film Corp., 539 U.S. 23 (2003), has held that the term "origin of goods," as used in the Lanham Act, "refers to the producer of the tangible goods that are offered for sale," and not to the source of the intellectual property, idea, or concept that the product contains. See id. at 37. The dispute between the parties at bar is whether defendants' "product," its MVA3000 vaccine, is something more than "self-replicating progeny of" the MVA 572 virus which has been repackaged and relabeled under defendants' trademark. (D.I. 125 at 27)

In support of their argument, plaintiffs state the following: (1) the tradename "ACAM" identifies "Acambis" as the originator of the goods;[14] (2) defendants' MVA3000

[14]Defendants sold different viruses in the vaccinia virus family under the trade names "ACAM1000" and "ACAM2000." The product at issue was first identified as "ACAM3000;" it was changed to "MVA3000" after the FDA questioned whether there

vaccine is different from their other products due to the distinctive characteristics of MVA; (3) defendants' MVA3000 "is [plaintiffs'] MVA." (D.I. 125 at 28) In contrast to these conclusory arguments, defendants cite to record evidence demonstrating that "the end product" - MVA3000 - "is much more than just a virus. . . . MVA3000 is manufactured through [a] complex process - developed by Acambis and Baxter" that includes combining the MVA seed virus with "a proprietary recipe of other additives and diluents to make a vaccine." (D.I. 112 at 16; D.I. 113, exs. 48, 49; D.I. 132, ex. 63) Plaintiffs have not identified genuine issues of material fact as to the characterization of the MVA3000 vaccine as a distinct product (i.e., more than just a replicating virus). Therefore, plaintiffs' reverse passing off claim under the Lanham Act fails under the reasoning of Dastar.

Plaintiffs also claim that defendants have violated the Lanham Act's strictures against false advertising and consumer confusion. With respect to the former, plaintiffs generally assert that defendants "made literally false representations to the U.S. Government regarding [defendants'] freedom to operate with MVA." (D.I. 125 at 31) Given that the audience for defendants' alleged "false representations," the U.S. Government, was responsible for distributing the MVA 572 in the first instance and had made similar representations regarding MVA, the court concludes that plaintiffs' Lanham Act claim in this regard is not cognizable under the facts of record. Neither have plaintiffs identified genuine issues of material fact with respect to their claim of consumer confusion. The record demonstrates that the FDA was concerned over

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would be confusion among clinicians between defendants' products. (D.I. 126, ex. S at AC0092061)

confusion among defendants' products, not between plaintiffs' and defendants' products.

2. Delaware Law of Unfair Competition and Deceptive Trade Practices

Plaintiffs argue that, "[g]enerally, unfair competition is 'conduct of business [that] is part of a heterogeneous collection of legal wrongs known as "unfair trade practices."'" (D.I. 125 at 33-34 (second alteration in original), quoting State ex. rel. Brady v. Wellington Homes, Inc., Civ. A. No. 99C-09-168-JTV, 2003 WL 22048231, at *1 (Del. Super. Aug. 20, 2003)). Plaintiffs proceed in their opposition papers to relate a "pattern of misconduct" on the part of defendants. (Id. at 35-38) While plaintiffs arguably have raised genuine issues of material fact with respect to defendants' conduct in light of "'[t]he essence of unfair competition[, that] is fair play,'" Ryan v. Carmona Bolen Home for Funerals, 775 A.2d 92, 94 (N.J. Super. 2001) (citation omitted), the question must be posed: How can Delaware law be invoked when none of the alleged conduct took place in Delaware; there is no alleged injury in Delaware; and the parties had no relationship in Delaware? The court conducted the appropriate choice of law analysis in connection with plaintiffs' conversion claim; the parties were in agreement that either Maryland or Massachusetts law should apply, as those states had the most significant relationship to the conduct alleged. All of plaintiffs' claims stem from the same universe of alleged wrong-doing. Under these circumstances, therefore, the court concludes that plaintiffs cannot prevail on their claims under Delaware law.

V. CONCLUSION

For the reasons stated, plaintiffs' motion for summary judgment is denied; defendants' motion for summary judgment is granted. An order shall issue.