Paper: 14 Date: January 19, 2021

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SWEEGEN, INC., Petitioner,

v.

PURECIRCLE USA INC. and PURECIRCLE SDN BHD, Patent Owner.

PGR2020-00070 Patent 10,485,257 B2

Before SUSAN L. C. MITCHELL, JENNIFER MEYER CHAGNON, and JAMIE T. WISZ, *Administrative Patent Judges*.

WISZ, Administrative Patent Judge.

DECISION
Denying Institution of Post-Grant Review
35 U.S.C. § 324



I. INTRODUCTION

SweeGen, Inc. ("Petitioner") filed a Petition (Paper 2, "Pet.") requesting a post-grant review of claims 1–7 of U.S. Patent No. 10,485,257 B2 (Ex. 1001, "the '257 patent"). PureCircle USA Inc. and PureCircle SDN BHD (collectively, "Patent Owner") filed a Preliminary Response (Paper 10, "Prelim. Resp."). After receiving our authorization to do so (*see* Paper 11), Petitioner filed a Reply to Patent Owners' Preliminary Response addressing discretionary denial under 35 U.S.C. § 325(d) (Paper 12) and Patent Owner filed a Sur-Reply (Paper 13).

We may not authorize a post-grant review to be instituted "unless . . . the information presented in the petition filed under section 321, if such information is not rebutted, would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable." 35 U.S.C. § 324(a).

Upon consideration of the arguments and evidence, we determine Petitioner has not shown that the '257 patent is eligible for post-grant review. Accordingly, we do not institute a post-grant review of the challenged claims of the '257 patent.

A. Real Parties-in-Interest

Petitioner identifies SweeGen, Inc., Phyto Tech Corp. d/b/a Blue California, and Conagen, Inc. as the real parties-in-interest. Pet. 89. Patent Owner states that "PureCircle Sdn Bhd and PureCircle USA Inc. are the sole assignee and exclusive licensee, respectively, of [the '257 patent], based on recorded assignments from the inventors and the Coca-Cola Company." Paper 3, 2. Patent Owner also states that "PureCircle Sdn Bhd and

PureCircle USA Inc. are both wholly owned subsidiaries of parent-company



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PureCircle Limited, which is a majority-owned subsidiary of Ingredion Incorporated." *Id*.

B. Related Proceedings

The parties indicate that the '257 patent is the subject of *PureCircle USA Inc. and PureCircle Sdn Bhd v. SweeGen, Inc. and Phyto Tech Corp d/b/a Blue California*, Case No. 8:18-cv-1679 JVS (C.D. Cal.). Pet. 89; Paper 3, 2. The parties also indicate that IPR2019-01017 was filed for related U.S. Patent No. 9,243,273 ("the '273 patent) and was not instituted. *Id.* Patent Owner also indicates that U.S. Pat. App. No. 16/694,893 claims priority through the '273 patent. Paper 3, 2.

C. The Asserted Grounds of Unpatentability

Petitioner asserts that claims 1–7 of the '257 patent are unpatentable in view of the following grounds. Pet. 4.

Ground	Claims Challenged	35 U.S.C. §	Reference(s)/Basis
1	1–7	112(a)	Enablement
2	1–7	112(a)	Written Description
3	1–7	101	Eligibility
4	1–7	102	Markosyan ¹
5	1–2, 6–7	102	Kishore ²

Petitioner relies on the Declarations of Kim Friis Olsson, Ph.D. (Ex. 1007), David Nunn, Ph.D. (Ex. 1009), and Enrique Arevalo (Ex. 1010) in support

² Kishore et al., WO 2011/153378 A1, published Dec. 8, 2011 (Ex. 1013, "Kishore").



¹ Markosyan et al., US 2015/0031869 A1, published Jan. 29, 2015 (Ex. 1012, "Markosyan").

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of its contentions. Patent Owner relies on the Declarations of Professor J. Martin Bollinger, Jr., Ph.D. (Ex. 2003) and Professor Joe P. Foley (Ex. 2005) in support of its Preliminary Response.

D. The '257 Patent

The '257 patent is directed to biocatalytic methods for preparing steviol glycosides from other steviol glycosides. Ex. 1001, 4:15–18. Steviol glycosides are a class of compounds found in the leaves of the *Stevia rebaudiana* Bertoni plant. *Id.* at 1:28–30. Purified steviol glycosides can be used in consumable products as non-caloric sweeteners. *Id.* at code (57), 3:30–31.

The '257 patent discloses the conversion of Rebaudioside D ("Reb D") to Rebaudioside X ("Reb X") by contacting Reb D with a UDP-glucosyltransferase ("UGT") enzyme, such as UGT76G1, which catalyzes the reaction of UDP-glucose and Reb D to produce Reb X. Ex. 1001, 13:13–17, 25–26. As shown in the figure below, Reb D is converted to Reb X through the addition of a glucose unit to the disaccharide at the C19 position of Reb D. *Id.* at 13:17–19, Fig. 2. A portion of Figure 2 from the '257 patent, which shows this reaction, is reproduced below:



Ex. 1001, Fig. 2. Figure 2 above shows the conversion of Reb D to Reb X.

Examples 1, 2, and 7–12 of the '257 patent describe the *in vivo* and *in vitro* production of UGT76G1. Ex. 1001, 20:58–22:21, 24:22–26:67. Examples 6 and 14 of the '257 patent describe catalytic reactions of Reb D to Reb X using *in-vitro* produced UGT76G1. *Id.* at 24:1–22, 27:28–57. The '257 patent also describes the use of high-performance liquid chromatography to separate the components of the reaction mixture of Example 14 and the use of nuclear magnetic resonance and high resolution mass spectrometry to describe the structure of the reaction components. *Id.* at 27:49–57, 30:15–32:59.

E. Illustrative Claim

Petitioner challenges claims 1–7 of the '257 patent. Claim 1, which is the only independent claim of the '257 patent, is illustrative of the challenged claims, and is reproduced below:

1. A method for adding at least one glucose unit to a steviol glycoside substrate to provide a target steviol glycoside, comprising contacting the steviol glycoside substrate with a recombinant biocatalyst protein enzyme comprising



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