# CENTER FOR DRUG EVALUATION AND RESEARCH

***APPLICATION NUMBER:***

# 209360Orig1s000

# PROPRIETARY NAME REVIEW(S)

**PROPRIETARY NAME REVIEW**

Division of Medication Error Prevention and Analysis (DMEPA)
Office of Medication Error Prevention and Risk Management (OMEPRM)
Office of Surveillance and Epidemiology (OSE)
Center for Drug Evaluation and Research (CDER)

***** This document contains proprietary information that cannot be released to the public*****

| | |
|---|---|
| **Date of This Review:** | December 18, 2017 |
| **Application Type and Number:** | NDA 209360 |
| **Product Name and Strength:** | Giapreza (angiotensin II) Injection, 2.5 mg/mL |
| **Total Product Strength:** | 2.5 mg/mL and 5 mg/2 mL |
| **Product Type:** | Single Ingredient Product |
| **Rx or OTC:** | Rx |
| **Applicant/Sponsor Name:** | La Jolla Pharmaceutical Company (La Jolla) |
| **Panorama #:** | 2017-19604773 |
| **DMEPA Safety Evaluator:** | Sarah Thomas, PharmD |
| **DMEPA Team Leader:** | Chi-Ming (Alice) Tu, PharmD, BCPS |

Contents

# 1 INTRODUCTION

This review evaluates the proposed proprietary name, Giapreza, from a safety and misbranding perspective. The sources and methods used to evaluate the proposed name are outlined in the reference section and Appendix A respectively. The Applicant did not submit an external name study for this proposed proprietary name.

## 1.1 REGULATORY HISTORY

The Applicant previously submitted the proposed proprietary name, (b) (4)***, on February 8, 2017 under IND 122708. However, we found the name, (b) (4)***, unacceptable due to orthographic and phonetic similarities and shared product characteristics with the proprietary name (b) (4) on August 2, 2017.[a]

Subsequently, the Applicant submitted the proposed proprietary name, (b) (4)***, on August 17, 2017 under NDA 209360. However, we found the name, (b) (4)***, unacceptable due to the presence of USAN stem (b) (4), as well as orthographic similarity and shared product characteristics with the proprietary name (b) (4)*** on November 8, 2017.[b]

Then, the Applicant submitted the name, (b) (4)***, for review on November 21, 2017 under NDA 209360. During a teleconference held on December 4, 2017, we informed La Jolla that (b) (4)*** may be confused with the currently marketed proprietary name (b) (4). Therefore, the Applicant withdrew the name (b) (4)*** on December 4, 2017.

The Applicant submitted the name, (b) (4)***, for review on December 6, 2017 under NDA 209360. On a teleconference held on December 11, 2017, we informed La Jolla that (b) (4)*** may be confused with the currently marketed proprietary name, (b) (4) Therefore, the Applicant withdrew the name (b) (4)*** on December 11, 2017.

Also on December 11, 2017, the Applicant submitted the name, Giapreza, the subject of this review, under NDA 209360.

## 1.2 PRODUCT INFORMATION

The following product information is provided in the December 11, 2017 proprietary name submission.

- Intended Pronunciation: JEE-ah-prez-ah
- Active Ingredient: Angiotensin II Acetate
- Indication of Use: To increase blood pressure in adults with distributive (b) (4) shock who remain hypotensive despite fluid therapy and vasopressor therapy
- Route of Administration: Intravenous
- Dosage Form: Injection

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[a] Lowery, A. Proprietary Name Review for (b) (4) (IND 122708). Silver Spring (MD): FDA, CDER, OSE, DMEPA (US); 2017 AUG 2. Panorama No. 2017-13080912.

[b] Thomas, S. Proprietary Name Review for (b) (4) (NDA 209360). Silver Spring (MD): FDA, CDER, OSE, DMEPA (US); 2017 NOV 8. Panorama No. 2017-17064786.

- Strengths: 2.5 mg/mL and 5 mg/2 mL (2.5 mg/mL)
- Dose and Frequency: The proposed recommended starting dose is 20 ng/kg/minute. If target blood pressure is not achieved, titrate every 5 minutes by increments of up to 15 ng/kg/minute as needed to achieve target blood pressure. Once (b) (4) distributive shock is sufficiently improved, down-titrate every 5 to 15 minutes based on blood pressure. During the first three-hours, the maximum dose should not exceed 80 ng/kg/min. Maintenance dose should not exceed 40 ng/kg/min. Doses as low as 1.25 ng/kg/min may be used.
- How Supplied: 2.5 mg/mL and 5 mg/2 mL vials packaged in 3 mL vials in cartons
- Storage: Vials stored under refrigeration at 2°C to 8°C (36ºF and 46ºF). Diluted solution stored at room temperature or under refrigeration at 2°C to 8°C (36ºF and 46ºF); diluted solution should be discarded after 24 hours of storage.

# 2 RESULTS

The following sections provide information obtained and considered in the overall evaluation of the proposed proprietary name.

## 2.1 MISBRANDING ASSESSMENT

The Office of Prescription Drug Promotion (OPDP) determined that the proposed name would not misbrand the proposed product. The Division of Medication Error Prevention and Analysis (DMEPA) and the Division of Cardiovascular and Renal Products (DCRP) concurred with the findings of OPDP's assessment of the proposed name.

## 2.2 SAFETY ASSESSMENT

The following aspects were considered in the safety evaluation of the name.

### *2.2.1 United States Adopted Names (USAN) Search*

There is no USAN stem present in the proprietary name[c].

### *2.2.2 Components of the Proposed Proprietary Name*

The Applicant did not provide a derivation or intended meaning for the proposed name, Giapreza, in their submission. This proprietary name is comprised of a single word that does not contain any components (i.e. a modifier, route of administration, dosage form, etc.) that are misleading or can contribute to medication error.

### *2.2.3 FDA Name Simulation Studies*

Fifty-six practitioners participated in DMEPA's prescription studies. Responses Geapreza and Geopreza resulted in close hits to currently marketed proprietary names, Cereza and Lopreeza. These two names are further evaluated in Appendix E. No other responses overlap with any currently marketed products nor did the responses sound or look similar to any currently

[c] USAN stem search conducted on December 7, 2017.

marketed products or any products in the pipeline. Appendix B contains the results from the verbal and written prescription studies.

### *2.2.4 Phonetic and Orthographic Computer Analysis (POCA) Search Results*

Our POCA search[d] identified 127 names with a combined phonetic and orthographic score of ≥55% or an individual phonetic or orthographic score ≥70%**.** These names are included in Table 1 below.

### *2.2.5 Names Retrieved for Review Organized by Name Pair Similarity*

Table 1 lists the number of names retrieved from our POCA search and the FDA Prescription Study. These name pairs are organized as highly similar, moderately similar or low similarity for further evaluation.

| **Table 1. Similarity Category** | **Number of Names** |
|---|---|
| Highly similar name pair:<br>combined match percentage score ≥70% | 1 |
| Moderately similar name pair:<br>combined match percentage score ≥55% to ≤ 69% | 124 |
| Low similarity name pair:<br>combined match percentage score ≤54% | 4 |

### *2.2.6 Safety Analysis of Names with Potential Orthographic, Spelling, and Phonetic Similarities*

Our analysis of the 129 names contained in Table 1 determined 128 of the names will not pose a risk for confusion as described in Appendices C through H. However, the proposed name could be confused with another proposed proprietary name, (b) (4)*** for the reasons described below (see section titled "Giapreza vs. (b) (4)"). Thus, the ultimate acceptability of the proposed proprietary name, Giapreza is dependent upon which underlying application is approved first. We evaluated the status of the underlying application of the conflicting name, (b) (4)*** and determined that the application remains in IND status. Therefore, if the proposed proprietary name, Giapreza, is granted approval under NDA 209360 on or before the February 28, 2018 PDUFA goal date for the application, this application approval will precede approval of the application with the conflicting name, (b) (4)***. Based on our assessment, we do not object to the proposed proprietary name, Giapreza, at this time.

[d] POCA search conducted on December 7, 2017 in version 4.2. POCA tool updated to incorporate a revised orthographic algorithm.

**Giapreza vs. (b) (4) *****

The proposed name, Giapreza, may be confused with another proposed proprietary name that is currently under review. (b) (4)

(b) (4)

### *2.2.7 Communication of DMEPA's Analysis at Midpoint of Review*

DMEPA communicated our findings to the Division of Cardiovascular and Renal Products (DCRP) via e-mail on December 14, 2017. At that time we also requested additional information or concerns that could inform our review. Per e-mail correspondence from the DCRP on December 18, 2017, they stated no additional concerns with the proposed proprietary name, Giapreza.

(b) (4)

## 3 CONCLUSIONS

The proposed proprietary name is acceptable.

If you have any questions or need clarifications, please contact Darrell Lyons, OSE project manager, at 301-796- 4092.

### 3.1 COMMENTS TO THE APPLICANT

We have completed our review of the proposed proprietary name, Giapreza, and have concluded that this name is acceptable.

If any of the proposed product characteristics as stated in your December 11, 2017 submission are altered prior to approval of the marketing application, the name must be resubmitted for review.

## 4 REFERENCES


1. ***USAN Stems (http://www.ama-assn.org/ama/pub/physician-resources/medical-science/united-states-adopted-names-council/naming-guidelines/approved-stems.page)***

   USAN Stems List contains all the recognized USAN stems.

2. ***Phonetic and Orthographic Computer Analysis (POCA)***

POCA is a system that FDA designed. As part of the name similarity assessment, POCA is used to evaluate proposed names via a phonetic and orthographic algorithm. The proposed proprietary name is converted into its phonemic representation before it runs through the phonetic algorithm. Likewise, an orthographic algorithm exists that operates in a similar fashion. POCA is publicly accessible.

***Drugs@FDA***

Drugs@FDA is an FDA Web site that contains most of the drug products approved in the United States since 1939. The majority of labels, approval letters, reviews, and other information are available for drug products approved from 1998 to the present. Drugs@FDA contains official information about FDA-approved *brand name* and *generic drugs*; *therapeutic biological products*, *prescription* and *over-the-counter* human drugs; and *discontinued drugs* (see Drugs @ FDA Glossary of Terms, available at http://www.fda.gov/Drugs/InformationOnDrugs/ucm079436.htm#ther_biological).

***RxNorm***

RxNorm contains the names of prescription and many OTC drugs available in the United States. RxNorm includes generic and branded:

- Clinical drugs – pharmaceutical products given to (or taken by) a patient with therapeutic or diagnostic intent
- Drug packs – packs that contain multiple drugs, or drugs designed to be administered in a specified sequence

Radiopharmaceuticals, contrast media, food, dietary supplements, and medical devices, such as bandages and crutches, are all out of scope for RxNorm (http://www.nlm.nih.gov/research/umls/rxnorm/overview.html#).

***Division of Medication Errors Prevention and Analysis proprietary name consultation requests***

This is a list of proposed and pending names that is generated by the Division of Medication Error Prevention and Analysis from the Access database/tracking system.

3. ***Electronic Drug Registration and Listing System (eDRLS) database***

The electronic Drug Registration and Listing System (eDRLS) was established to supports the FDA's Center for Drug Evaluation and Research (CDER) goal to establish a common Structured Product Labeling (SPL) repository for all facilities that manufacture regulated drugs. The system is a reliable, up-to-date inventory of FDA-regulated, drugs and establishments that produce drugs and their associated information.

## APPENDICES

### Appendix A

FDA's Proprietary Name Risk Assessment evaluates proposed proprietary names for misbranding and safety concerns.

1. **Misbranding Assessment**: For prescription drug products, OPDP assesses the name for misbranding concerns. For over-the-counter (OTC) drug products, the misbranding assessment of the proposed name is conducted by DNDP. OPDP or DNDP evaluates proposed proprietary names to determine if the name is false or misleading, such as by making misrepresentations with respect to safety or efficacy. For example, a fanciful proprietary name may misbrand a product by suggesting that it has some unique effectiveness or composition when it does not (21 CFR 201.10(c)(3)). OPDP or DNDP provides their opinion to DMEPA for consideration in the overall acceptability of the proposed proprietary name.
2. **Safety Assessment**: The safety assessment is conducted by DMEPA, and includes the following:

a. Preliminary Assessment: We consider inclusion of USAN stems or other characteristics that when incorporated into a proprietary name may cause or contribute to medication errors (i.e., dosing interval, dosage form/route of administration, medical or product name abbreviations, names that include or suggest the composition of the drug product, etc.) See prescreening checklist below in Table 2*. DMEPA defines a medication error as any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer. [e]

[e] National Coordinating Council for Medication Error Reporting and Prevention. Last accessed 10/11/2007.

***Table 2- Prescreening Checklist for Proposed Proprietary Name**

| | Answer the questions in the checklist below. Affirmative answers to any of these questions indicate a potential area of concern that should be carefully evaluated as described in this guidance. |
|---|---|
| **Y/N** | **Is the proposed name obviously similar in spelling and pronunciation to other names?** |
| | Proprietary names should not be similar in spelling or pronunciation to proprietary names, established names, or ingredients of other products. |
| **Y/N** | **Are there inert or inactive ingredients referenced in the proprietary name?** |
| | Proprietary names should not incorporate any reference to an inert or inactive ingredient in a way that might create an impression that the ingredient's value is greater than its true functional role in the formulation (21 CFR 201.10(c)(4)). |
| **Y/N** | **Does the proprietary name include combinations of active ingredients?** |
| | Proprietary names of fixed combination drug products should not include or suggest the name of one or more, but not all, of its active ingredients (see 21 CFR 201.6(b)). |
| **Y/N** | **Is there a United States Adopted Name (USAN) stem in the proprietary name?** |
| | Proprietary names should not incorporate a USAN stem in the position that USAN designates for the stem. |
| **Y/N** | **Is this proprietary name used for another product that does not share at least one common active ingredient?** |
| | Drug products that do not contain at least one common active ingredient should not use the same (root) proprietary name. |
| **Y/N** | **Is this a proprietary name of a discontinued product?** |
| | Proprietary names should not use the proprietary name of a discontinued product if that discontinued drug product does not contain the same active ingredients. |

b. Phonetic and Orthographic Computer Analysis (POCA): Following the preliminary screening of the proposed proprietary name, DMEPA staff evaluates the proposed name against potentially similar names. In order to identify names with potential similarity to the proposed proprietary name, DMEPA enters the proposed proprietary name in POCA and queries the name against the following drug reference databases, Drugs@fda, CernerRxNorm, and names in the review pipeline using a 55% threshold in POCA. DMEPA reviews the combined orthographic and phonetic matches and group the names into one of the following three categories:
   - Highly similar pair: combined match percentage score ≥70%.
   - Moderately similar pair: combined match percentage score ≥55% to ≤ 69%.
   - Low similarity: combined match percentage score ≤54%.

Using the criteria outlined in the check list (Table 3-5) that corresponds to each of the three categories (highly similar pair, moderately similar pair, and low similarity), DMEPA evaluates the name pairs to determine the acceptability or non-acceptability of a proposed proprietary name. The intent of these checklists is to increase the transparency and predictability of the safety determination of whether a proposed name is vulnerable to confusion from a look-alike or sound-alike perspective. Each bullet below corresponds to the name similarity category cross-references the respective table that addresses criteria that DMEPA uses to determine whether a name presents a safety concern from a look-alike or sound-alike perspective.

- For highly similar names, differences in product characteristics often cannot mitigate the risk of a medication error, including product differences such as strength and dose. Thus, proposed proprietary names that have a combined score of ≥ 70 percent are at risk for a look-alike sound-alike confusion which is an area of concern (See Table 3).
- Moderately similar names are further evaluated to identify the presence of attributes that are known to cause name confusion.
    - Name attributes: We note that the beginning of the drug name plays a significant role in contributing to confusion. Additionally, drug name pairs that start with the same first letter and contain a shared letter string of at least 3 letters in both names are major contributing factor in the confusion of drug names[f]. We evaluate all moderately similar names retrieved from POCA to identify the above attributes. These names are further evaluated to identify overlapping or similar strengths or doses.
    - Product attributes: Moderately similar names of products that have overlapping or similar strengths or doses represent an area for concern for FDA. The dose and strength information is often located in close proximity to the drug name itself on prescriptions and medication orders, and the information can be an important factor that either increases or decreases the potential for confusion between similarly named drug pairs. The ability of other product characteristics to mitigate confusion (e.g.,

[f] Shah, M, Merchant, L, Characteristics That May Help in the Identification of Potentially Confusing Proprietary Drug Names. Therapeutic Innovation & Regulatory Science, September 2016

route, frequency, dosage form) may be limited when the strength or dose overlaps. DMEPA reviews such names further, to determine whether sufficient differences exist to prevent confusion. (See Table 4).

- Names with low similarity that have no overlap or similarity in strength and dose are generally acceptable (See Table 5) unless there are data to suggest that the name might be vulnerable to confusion (e.g., prescription simulation study suggests that the name is likely to be misinterpreted as a marketed product). In these instances, we would reassign a low similarity name to the moderate similarity category and review according to the moderately similar name pair checklist.

c. FDA Prescription Simulation Studies: DMEPA staff also conducts a prescription simulation studies using FDA health care professionals.

Three separate studies are conducted within the Centers of the FDA for the proposed proprietary name to determine the degree of confusion of the proposed proprietary name with marketed U.S. drug names (proprietary and established) due to similarity in visual appearance with handwritten prescriptions or verbal pronunciation of the drug name. The studies employ healthcare professionals (pharmacists, physicians, and nurses), and attempts to simulate the prescription ordering process. The primary Safety Evaluator uses the results to identify orthographic or phonetic vulnerability of the proposed name to be misinterpreted by healthcare practitioners.

In order to evaluate the potential for misinterpretation of the proposed proprietary name in handwriting and verbal communication of the name, inpatient medication orders and/or outpatient prescriptions are written, each consisting of a combination of marketed and unapproved drug products, including the proposed name. These orders are optically scanned and one prescription is delivered to a random sample of participating health professionals via e-mail. In addition, a verbal prescription is recorded on voice mail. The voice mail messages are then sent to a random sample of the participating health professionals for their interpretations and review. After receiving either the written or verbal prescription orders, the participants record their interpretations of the orders which are recorded electronically.

d. Comments from Other Review Disciplines: DMEPA requests the Office of New Drugs (OND) and/or Office of Generic Drugs (OGD), ONDQA or OBP for their comments or concerns with the proposed proprietary name, ask for any clinical issues that may impact the DMEPA review during the initial phase of the name review. Additionally, when applicable, at the same time DMEPA requests concurrence/non-concurrence with OPDP's decision on the name. The primary Safety Evaluator addresses any comments or concerns in the safety evaluator's assessment.

   The OND/OGD Regulatory Division is contacted a second time following our analysis of the proposed proprietary name. At this point, DMEPA conveys their decision to accept or reject the name. The OND or OGD Regulatory Division is requested to provide any further information that might inform DMEPA's final decision on the proposed name.

   Additionally, other review disciplines opinions such as ONDQA or OBP may be considered depending on the proposed proprietary name.

   When provided, DMEPA considers external proprietary name studies conducted by or for the Applicant/Sponsor and incorporates the findings of these studies into the overall risk assessment.

The DMEPA primary reviewer assigned to evaluate the proposed proprietary name is responsible for considering the collective findings, and provides an overall risk assessment of the proposed proprietary name.

**Table 3. Highly Similar Name Pair Checklist (i.e., combined Orthographic and Phonetic score is ≥ 70%).**

| Answer the questions in the checklist below. Affirmative answers to some of these questions suggest that the pattern of orthographic or phonetic differences in the names may render the names less likely to confusion, provided that the pair does not share a common strength or dose. | | | |
|---|---|---|---|
| Orthographic Checklist | | Phonetic Checklist | |
| **Y/N** | Do the names begin with different first letters?<br>*Note that even when names begin with different first letters, certain letters may be confused with each other when scripted.* | **Y/N** | Do the names have different number of syllables? |
| **Y/N** | Are the lengths of the names dissimilar* when scripted?<br>**FDA considers the length of names different if the names differ by two or more letters.* | **Y/N** | Do the names have different syllabic stresses? |
| **Y/N** | Considering variations in scripting of some letters (such as *z* and *f*), is there a different number or placement of upstroke/downstroke letters present in the names? | **Y/N** | Do the syllables have different phonologic processes, such vowel reduction, assimilation, or deletion? |

| | | | |
|---|---|---|---|
| Y/N | Is there different number or placement of cross-stroke or dotted letters present in the names? | Y/N | Across a range of dialects, are the names consistently pronounced differently? |
| Y/N | Do the infixes of the name appear dissimilar when scripted? | | |
| Y/N | Do the suffixes of the names appear dissimilar when scripted? | | |

**Table 4: Moderately Similar Name Pair Checklist (i.e., combined score is ≥55% to ≤69%).**

| | |
|---|---|
| Step 1 | Review the DOSAGE AND ADMINISTRATION and HOW SUPPLIED/STORAGE AND HANDLING sections of the prescribing information (or for OTC drugs refer to the Drug Facts label) to determine if strengths and doses of the name pair overlap or are very similar. Different strengths and doses for products whose names are moderately similar may decrease the risk of confusion between the moderately similar name pairs. Name pairs that have overlapping or similar strengths or doses have a higher potential for confusion and should be evaluated further (see Step 2). Because the strength or dose could be used to express an order or prescription for a particular drug product, overlap in one or both of these components would be reason for further evaluation.<br><br>For single strength products, also consider circumstances where the strength may not be expressed.<br><br>For any i.e. drug products comprised of more than one active ingredient, consider whether the strength or dose may be expressed using only one of the components.<br><br>To determine whether the strengths or doses are similar to your proposed product, consider the following list of factors that may increase confusion:<br><br>• Alternative expressions of dose: 5 mL may be listed in the prescribing information, but the dose may be expressed in metric weight (e.g., 500 mg) or in non-metric units (e.g., 1 tsp, 1 tablet/capsule). Similarly, a strength or dose of 1000 mg may be expressed, in practice, as 1 g, or vice versa.<br><br>• Trailing or deleting zeros: 10 mg is similar in appearance to 100 mg which may potentiate confusion between a name pair with moderate similarity.<br><br>• Similar sounding doses: 15 mg is similar in sound to 50 mg |

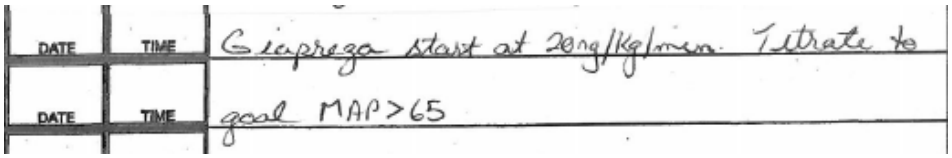
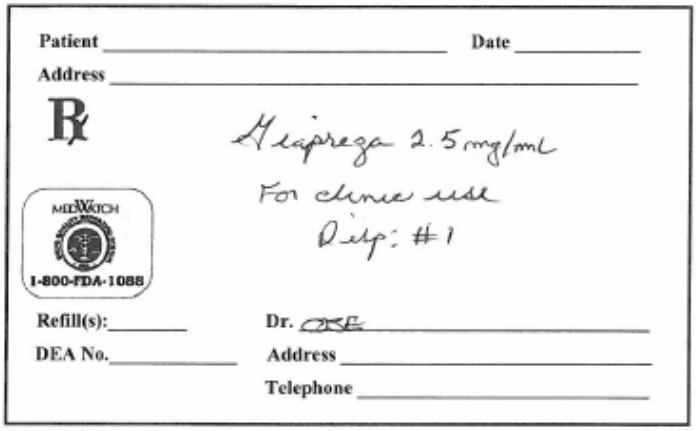
| | | |
|---|---|---|
| Step 2 | Answer the questions in the checklist below. Affirmative answers to some of these questions suggest that the pattern of orthographic or phonetic differences in the names may reduce the likelihood of confusion for moderately similar names **with** overlapping or similar strengths or doses. | |
| | Orthographic Checklist (Y/N to each question)<br>• Do the names begin with different first letters?<br>Note that even when names begin with different first letters, certain letters may be confused with each other when scripted.<br>• Are the lengths of the names dissimilar* when scripted?<br>*FDA considers the length of names different if the names differ by two or more letters.<br>• Considering variations in scripting of some letters (such as *z* and *f*), is there a different number or placement of upstroke/downstroke letters present in the names?<br>• Is there different number or placement of cross-stroke or dotted letters present in the names?<br>• Do the infixes of the name appear dissimilar when scripted?<br>• Do the suffixes of the names appear dissimilar when scripted? | Phonetic Checklist (Y/N to each question)<br>• Do the names have different number of syllables?<br>• Do the names have different syllabic stresses?<br>• Do the syllables have different phonologic processes, such vowel reduction, assimilation, or deletion?<br>• Across a range of dialects, are the names consistently pronounced differently? |

**Table 5: Low Similarity Name Pair Checklist (i.e., combined score is ≤54%).**

| |
|---|
| Names with low similarity are generally acceptable unless there are data to suggest that the name might be vulnerable to confusion (e.g., prescription simulation study suggests that the name is likely to be misinterpreted as a marketed product). In these instances, we would reassign a low similarity name to the moderate similarity category and review according to the moderately similar name pair checklist. |

**Appendix B:** Prescription Simulation Samples and Results

**Figure 1. Giapreza Study (Conducted on December 8, 2017)**

| Handwritten Medication Order/Prescription | Verbal Prescription |
|---|---|
| Medication Order:<br>  <br><br>Outpatient Prescription:<br>  <br> | Giapreza 2.5 mg/mL<br>For clinic use<br>Dispense #1 |

**FDA Prescription Simulation Responses (Aggregate 1 Rx Studies Report)**

## Study Name: Giapreza

As of Date 12/12/2017

293 People Received Study

56 People Responded

Study Name: Giapreza

| Total | 18 | 15 | 23 | |
|---|---|---|---|---|
| **INTERPRETATION** | **OUTPATIENT** | **VOICE** | **INPATIENT** | **TOTAL** |
| GEAPREZA | 0 | 2 | 1 | 3 |
| GEOPREZA | 0 | 4 | 0 | 4 |
| GIAMPREZA | 0 | 1 | 0 | 1 |
| GIAPRESSA | 0 | 0 | 1 | 1 |
| GIAPREZA | 17 | 4 | 19 | 40 |
| GIAPREZA 2.5MG/ML | 0 | 1 | 0 | 1 |
| GIAPREZZA | 0 | 3 | 0 | 3 |
| GIEPREZA | 1 | 0 | 0 | 1 |
| GLAPREZA | 0 | 0 | 2 | 2 |

**Appendix C:** Highly Similar Names (e.g., combined POCA score is ≥70%)

| No. | **Proposed name:** Giapreza<br>**Established name:** Angiotensin II Acetate<br>**Dosage form:** Injection<br>**Strength(s):** 2.5 mg/mL and 5 mg/2 mL<br>**Usual Dose:** 20 ng/kg/minute starting dose, and titrate every 5 minutes by increments of up to 15 ng/kg/minute as needed to achieve blood pressure, with maximum dose of 80 ng/kg/minute during the first three hours and 40 ng/kg/min for maintenance dose | **POCA Score (%)** | **Orthographic and/or phonetic differences in the names sufficient to prevent confusion**<br><br>**Other prevention of failure mode expected to minimize the risk of confusion between these two names.** |
|---|---|---|---|
| 1. | (b) (4) *** | 93 | Proposed proprietary name found unacceptable by DMEPA (Panorama #: 2017-17064786) under NDA 209360. Giapreza, the subject of this review, is now the proposed proprietary name for NDA 209360. |

**Appendix D:** Moderately Similar Names (e.g., combined POCA score is ≥55% to ≤69%) with no overlap or numerical similarity in Strength and/or Dose

| No. | Name | POCA Score (%) |
|---|---|---|
| | N/A | |

**Appendix E:** Moderately Similar Names (e.g., combined POCA score is ≥55% to ≤69%) with overlap or numerical similarity in Strength and/or Dose

| No. | **Proposed name:** Giapreza<br>**Established name:** Angiotensin II Acetate<br>**Dosage form:** Injection<br>**Strength(s):** 2.5 mg/mL and 5 mg/2 mL<br>**Usual Dose:** 20 ng/kg/minute starting dose, and titrate every 5 minutes by increments of up to 15 ng/kg/minute as needed to achieve blood pressure, with maximum dose of 80 ng/kg/minute during the first three hours and 40 ng/kg/min for maintenance dose | **POCA Score (%)** | **Prevention of Failure Mode**<br><br>**In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names** |
|---|---|---|---|
| 2. | A+D Diaper Rash | 58 | This name pair has sufficient orthographic and phonetic differences. |
| 3. | Afrezza | 64 | This name pair has sufficient orthographic and phonetic differences. |
| 4. | Argipressin | 59 | This name pair has sufficient orthographic and phonetic differences. |
| 5. | Bethaprim | 55 | This name pair has sufficient orthographic and phonetic differences. |
| 6. | Caprelsa | 64 | This name pair has sufficient orthographic and phonetic differences. |
| 7. | Catapres | 60 | This name pair has sufficient orthographic and phonetic differences. |
| 8. | Cereza | 59 | This name pair has sufficient orthographic and phonetic differences. |
| 9. | Cisapride | 62 | This name pair has sufficient orthographic and phonetic differences. |
| 10. | Daraprim | 56 | This name pair has sufficient orthographic and phonetic differences. |
| 11. | Daytrana | 56 | This name pair has sufficient orthographic and phonetic differences. |
| 12. | Decapryn | 55 | This name pair has sufficient orthographic and phonetic differences. |
| 13. | Depopred | 55 | This name pair has sufficient orthographic and phonetic differences. |
| 14. | Diapedic | 58 | Product available as "Diapedic Foot and Leg Treatment" per DailyMed database. This name pair has sufficient orthographic and phonetic differences. |
| 15. | Diaper Relief | 59 | This name pair has sufficient orthographic and phonetic differences. |

**Appendix E:** Moderately Similar Names (e.g., combined POCA score is ≥55% to ≤69%) with overlap or numerical similarity in Strength and/or Dose

| No. | **Proposed name:** Giapreza<br>**Established name:** Angiotensin II Acetate<br>**Dosage form:** Injection<br>**Strength(s):** 2.5 mg/mL and 5 mg/2 mL<br>**Usual Dose:** 20 ng/kg/minute starting dose, and titrate every 5 minutes by increments of up to 15 ng/kg/minute as needed to achieve blood pressure, with maximum dose of 80 ng/kg/minute during the first three hours and 40 ng/kg/min for maintenance dose | **POCA Score (%)** | **Prevention of Failure Mode**<br><br>**In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names** |
|---|---|---|---|
| 16. | Diprivan | 65 | This name pair has sufficient orthographic and phonetic differences. |
| 17. | Duraprep | 60 | This name pair has sufficient orthographic and phonetic differences. |
| 18. | (b) (4) *** | 56 | This name pair has sufficient orthographic and phonetic differences. |
| 19. | Gas Relief | 56 | This name pair has sufficient orthographic and phonetic differences. |
| 20. | Genpril | 56 | This name pair has sufficient orthographic and phonetic differences. |
| 21. | Genprin | 56 | This name pair has sufficient orthographic and phonetic differences. This name pair also has differentiating product characteristics (dose: 20 ng/kg/minute to 80 ng/kg/minute vs. 325 mg; dosage form: injection vs. tablet; route of administration: intravenous vs. oral); thus, the risk of name confusion between the name pair is minimized. |
| 22. | Gingera | 58 | This name pair has sufficient orthographic and phonetic differences. |
| 23. | Glecaprevir | 62 | This name pair has sufficient orthographic and phonetic differences. |
| 24. | (b) (4) *** | 56 | This name pair has sufficient orthographic and phonetic differences. |
| 25. | Grape Seed | 55 | This name pair has sufficient orthographic and phonetic differences. |

**Appendix E:** Moderately Similar Names (e.g., combined POCA score is ≥55% to ≤69%) with overlap or numerical similarity in Strength and/or Dose

| No. | **Proposed name:** Giapreza<br>**Established name:** Angiotensin II Acetate<br>**Dosage form:** Injection<br>**Strength(s):** 2.5 mg/mL and 5 mg/2 mL<br>**Usual Dose:** 20 ng/kg/minute starting dose, and titrate every 5 minutes by increments of up to 15 ng/kg/minute as needed to achieve blood pressure, with maximum dose of 80 ng/kg/minute during the first three hours and 40 ng/kg/min for maintenance dose | **POCA Score (%)** | **Prevention of Failure Mode**<br><br>**In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names** |
|---|---|---|---|
| 26. | Grazoprevir | 62 | Grazoprevir is one of two active ingredients in the product, Zepatier. The Grazoprevir and Giapreza name pair has sufficient orthographic and phonetic differences. |
| 27. | Guiadrine G-1200 | 60 | This name pair has sufficient orthographic and phonetic differences. |
| 28. | Guiadrine II | 55 | This name pair has sufficient orthographic and phonetic differences. |
| 29. | Ingrezza | 61 | This name pair has sufficient orthographic and phonetic differences. |
| 30. | (b) (4) *** | 52 | This name pair has sufficient orthographic and phonetic differences. |
| 31. | Lopreeza | 68 | This name pair has sufficient orthographic and phonetic differences.<br>This name pair differs in dosage form (tablet vs injection), route (oral vs intravenous), and dose and frequency (1 tablet daily vs 20 ng/kg/minute starting dose that is titrated based on blood pressure); thus, providing differentiating product characteristics. |
| 32. | Medipred | 56 | "Medipred" identified in Micromedex Redbook database as "Medipred 40" and "Medipred 80" products, which are deactivated but have generic equivalents available. "Medipred 40", "Medipred 80", and Giapreza have sufficient orthographic and phonetic differences.<br>"Medipred" also identified as an international deflazacort product marketed in India, per Tox and Drug Product Lookup Micromedex database. |

**Appendix E:** Moderately Similar Names (e.g., combined POCA score is ≥55% to ≤69%) with overlap or numerical similarity in Strength and/or Dose

| No. | **Proposed name:** Giapreza<br>**Established name:** Angiotensin II Acetate<br>**Dosage form:** Injection<br>**Strength(s):** 2.5 mg/mL and 5 mg/2 mL<br>**Usual Dose:** 20 ng/kg/minute starting dose, and titrate every 5 minutes by increments of up to 15 ng/kg/minute as needed to achieve blood pressure, with maximum dose of 80 ng/kg/minute during the first three hours and 40 ng/kg/min for maintenance dose | **POCA Score (%)** | **Prevention of Failure Mode**<br><br>**In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names** |
|---|---|---|---|
| 33. | Metaprel | 57 | This name pair has sufficient orthographic and phonetic differences. |
| 34. | Mifeprex | 56 | This name pair has sufficient orthographic and phonetic differences. |
| 35. | Millipred | 56 | This name pair has sufficient orthographic and phonetic differences. |
| 36. | Minipress | 56 | This name pair has sufficient orthographic and phonetic differences. |
| 37. | Naprelan | 62 | This name pair has sufficient orthographic and phonetic differences. |
| 38. | Ocu-pred-A | 58 | This name pair has sufficient orthographic and phonetic differences. |
| 39. | Orapred | 56 | This name pair has sufficient orthographic and phonetic differences. |
| 40. | Pap-Urea | 58 | This name pair has sufficient orthographic and phonetic differences. |
| 41. | Paritaprevir | 56 | This name pair has sufficient orthographic and phonetic differences. |
| 42. | Pediapred | 68 | This name pair has sufficient orthographic and phonetic differences. |
| 43. | Prezatide | 52 | This name pair has sufficient orthographic and phonetic differences. |
| 44. | Prezista | 55 | This name pair has sufficient orthographic and phonetic differences. |
| 45. | Rezira | 49 | This name pair has sufficient orthographic and phonetic differences. |
| 46. | Rhopressa*** | 56 | This name pair has sufficient orthographic and phonetic differences. |

**Appendix E:** Moderately Similar Names (e.g., combined POCA score is ≥55% to ≤69%) with overlap or numerical similarity in Strength and/or Dose

| No. | **Proposed name:** Giapreza<br>**Established name:** Angiotensin II Acetate<br>**Dosage form:** Injection<br>**Strength(s):** 2.5 mg/mL and 5 mg/2 mL<br>**Usual Dose:** 20 ng/kg/minute starting dose, and titrate every 5 minutes by increments of up to 15 ng/kg/minute as needed to achieve blood pressure, with maximum dose of 80 ng/kg/minute during the first three hours and 40 ng/kg/min for maintenance dose | **POCA Score (%)** | **Prevention of Failure Mode**<br><br>**In the conditions outlined below, the following combination of factors, are expected to minimize the risk of confusion between these two names** |
|---|---|---|---|
| 47. | Simeprevir | 59 | This name pair has sufficient orthographic and phonetic differences. |
| 48. | Sterapred | 59 | This name pair has sufficient orthographic and phonetic differences. |
| 49. | Vaprino | 57 | Product available as Vaprino A-D. This name pair has sufficient orthographic and phonetic differences. |
| 50. | Vaprisol | 56 | This name pair has sufficient orthographic and phonetic differences. |
| 51. | Veripred | 61 | This name pair has sufficient orthographic and phonetic differences. |
| 52. | Zyprexa | 66 | This name pair has sufficient orthographic and phonetic differences. |

**Appendix F:** Low Similarity Names (e.g., combined POCA score is ≤54%)

| No. | Name | POCA Score (%) |
|---|---|---|
| | N/A | |

**Appendix G:** Names not likely to be confused or not used in usual practice settings for the reasons described**.**

| No. | Name | POCA Score (%) | Failure preventions |
|---|---|---|---|
| 53. | Alizapride | 56 | International product marketed in Argentina, Italy, the Netherlands, Belgium, Spain, and other countries per the Micromedex database. |
| 54. | Antipressan | 55 | International product marketed in Ireland, Hong Kong, and the United Kingdom per the Micromedex database. |
| 55. | Atreza | 66 | Brand discontinued with no generic equivalents available per Micromedex Redbook and Clinical Pharmacology databases. |
| 56. | Caprieve | 56 | Name identified in RxNorm database. Unable to find product characteristics for "Caprieve" in commonly used drug databases. |
| 57. | Cetapred | 61 | Brand discontinued with no generic equivalents available per Micromedex Redbook and Clinical Pharmacology databases. |
| 58. | Deapril-St | 58 | Brand discontinued with no generic equivalents available per Micromedex Redbook and Drugs@FDA databases. |
| 59. | Diareze | 64 | International product marketed in Australia, the United Kingdom, and Ireland per the Micromedex database. |
| 60. | Diupres | 62 | Name identified in RxNorm database. Unable to find product characteristics for "Diupres" in commonly used drug databases. |
| 61. | Diupres-250 | 62 | Brand discontinued with no generic equivalents available per Drugs@FDA, Micromedex Redbook, and Clinical Pharmacology databases. |
| 62. | Diupres-500 | 62 | Brand discontinued with no generic equivalents available per Drugs@FDA, Micromedex Redbook, and Clinical Pharmacology databases. |
| 63. | Divaproex | 60 | Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases. |

| No. | Name | POCA Score (%) | Failure preventions |
|---|---|---|---|
| 64. | Enaprilat | 58 | Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases. |
| 65. | Galliprant | 56 | Veterinary product per DailyMed database. |
| 66. | Gastrese-La | 56 | Name identified in RxNorm database. Unable to find "Gastrese-La" product characteristics in commonly used drug databases. |
| 67. | Glabridin | 56 | Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases. Per Google search, Glabridin is an isoflavane chemical compound that is found in the root extract of licorice. |
| 68. | Gonabreed | 56 | Veterinary product per DailyMed database. |
| 69. | Guai-Car La | 56 | Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases. |
| 70. | Guiadrine-Gp | 56 | Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases. |
| 71. | Imidapril | 55 | Imidapril Hydrochloride is an international product marketed in many countries including Spain, Germany, and Italy per Micromedex Tox and Drug Product Lookup database. |
| 72. | Marpres | 56 | Brand discontinued with no generic equivalents available per Micromedex Redbook. |
| 73. | Minaprine | 58 | Minaprine Hydrochloride is an international product marketed in France, Italy, Spain per Micromedex database. |
| 74. | Naprofen | 56 | Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases. Per Google search, Naprofen is a drug product containing Naproxen and is marketed in Egypt. |
| 75. | Neo-predef | 56 | Veterinary product per DailyMed database. |
| 76. | Niaprazine | 68 | International product marketed in France and Italy per Micromedex database. |
| 77. | Prefrin-A | 60 | Brand discontinued with no generic equivalents available per Micromedex Redbook and Drugs@FDA databases. |
| 78. | Rezipas | 52 | Brand discontinued with no generic equivalents per Drugs@FDA. |

| No. | Name | POCA Score (%) | Failure preventions |
|---|---|---|---|
| 79. | Spirapril | 58 | Generic discontinued per Drugs@FDA. International product per Micromedex database marketed in Italy, Spain, and other countries. |
| 80. | Suprenza | 67 | Brand discontinued with no generic equivalents available per Micromedex Redbook, Facts and Comparison, Clinical Pharmacology, and Drugs@FDA databases. |
| 81. | (b) (4) *** | 60 | Proposed proprietary name found unacceptable by DMEPA (Panorama #: 2015-2119899). Application ANDA 207044 is approved under name levonorgestrel. |
| 82. | Telaprevir | 62 | Brand discontinued with no generic equivalents available per Micromedex Redbook, Facts and Comparison, Clinical Pharmacology, and Drugs@FDA databases. |
| 83. | Tiapride | 66 | Tiapride Hydrochloride is an international product marketed in France, Italy, and other countries per Micromedex database. |
| 84. | Triaprin | 60 | Brand discontinued with no generic equivalents available per Micromedex Redbook and Drugs@FDA databases. |
| 85. | Tricaprin | 56 | Name identified in RxNorm database. Unable to find product characteristics in commonly used drug databases. |
| 86. | Vivapryl | 58 | International product marketed in the United Kingdom per Micromedex database. |
| 87. | Zuprevo | 59 | Veterinary product per DailyMed database. |

**Appendix H:** Names not likely to be confused due to absence of attributes that are known to cause name confusion[g].

| No. | Name | POCA Score (%) |
|---|---|---|
| 88. | Abreva | 58 |
| 89. | Berri-Freez | 59 |
| 90. | Biofreeze | 56 |
| 91. | Biperiden | 57 |
| 92. | Cap-Profen | 56 |
| 93. | Cariprazine | 56 |
| 94. | Carprovet | 56 |
| 95. | Cipramil | 55 |
| 96. | Citravet | 55 |
| 97. | Copper Edta | 55 |
| 98. | Dapiprazole | 60 |
| 99. | Deprizine | 60 |
| 100. | Diabeta | 56 |
| 101. | Diatrizoate | 60 |
| 102. | Diatrizoate-60 | 60 |
| 103. | Dilatrate | 56 |
| 104. | Diprosone | 55 |
| 105. | Dynafreeze | 56 |
| 106. | Feprazone | 58 |
| 107. | Invega Trinza | 56 |
| 108. | Jetrea | 55 |
| 109. | (b) (4) *** | 56 |
| 110. | Niraparib | 58 |
| 111. | Nitrazepam | 56 |
| 112. | Photrexa | 56 |
| 113. | Piperazine | 57 |
| 114. | Pipracil | 58 |
| 115. | Portrazza | 60 |
| 116. | (b) (4) *** | 56 |
| 117. | Simbrinza | 58 |
| 118. | Spinraza | 60 |
| 119. | Spiriva | 55 |
| 120. | (b) (4) *** | 58 |
| 121. | Tipiracil | 56 |
| 122. | Vaporex | 56 |
| 123. | Virac Rex | 57 |
| 124. | Vitapirena | 68 |

[g] Shah, M, Merchant, L, Chan, I, and Taylor, K. Characteristics That May Help in the Identification of Potentially Confusing Proprietary Drug Names. Therapeutic Innovation & Regulatory Science, September 2016

| No. | Name | POCA Score (%) |
|---|---|---|
| 125. | Vita-Respa | 64 |
| 126. | Zinplava | 56 |
| 127. | Zipeprol | 56 |
| 128. | (b) (4) *** | 60 |

**Appendix I:** Names identified in the eDRLS database not likely to be confused due to notable spelling, orthographic and phonetic differences.

| No. | Name |
|---|---|
| | N/A |

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SARAH E THOMAS
12/18/2017

CHI-MING TU
12/18/2017

**PROPRIETARY NAME REVIEW**

Division of Medication Error Prevention and Analysis (DMEPA)
Office of Medication Error Prevention and Risk Management (OMEPRM)
Office of Surveillance and Epidemiology (OSE)
Center for Drug Evaluation and Research (CDER)

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| | |
|---|---|
| **Date of This Review:** | November 9, 2017 |
| **Application Type and Number:** | NDA 209360 |
| **Product Name and Strength:** | (b) (4) (Angiotensin II) Injection, 2.5 mg/mL |
| **Total Product Strength:** | 2.5 mg/mL and 5 mg/2 mL |
| **Product Type:** | Single Ingredient Product |
| **Rx or OTC:** | Rx |
| **Applicant/Sponsor Name:** | La Jolla Pharmaceutical Company |
| **Panorama #:** | 2017-17064786 |
| **DMEPA Safety Evaluator:** | Sarah Thomas, PharmD |
| **DMEPA Team Leader:** | Chi-Ming (Alice) Tu, PharmD, BCPS |
| **DMEPA Deputy Director (Acting):** | Danielle Harris, PharmD, BCPS |
| **DMEPA Division Director:** | Todd Bridges, RPh |

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CHI-MING TU
11/09/2017

DANIELLE M HARRIS
11/10/2017

TODD D BRIDGES
11/10/2017