

PharmNOTES

Summary about new FDA-approved products, new indications, first-time generics, and WHAT IS IN THE PIPELINE.

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NEWS

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THERAPEUTIC CLASS

Antineoplastic agent; Tyrosine kinase inhibitor.

FDA-APPROVE INDICATION(S)

Ayvakit[™] is a kinase inhibitor indicated for the treatment of adults with unresectable or metastatic gastrointestinal stromal tumor (GIST) harboring a platelet-derived growth factor receptor alpha (PDGFRA) exon 18 mutation, including PDGFRA D842V mutations.

DOSAGE AND ADMINISTRATION

The recommended dose is 300 mg orally once daily on an empty stomach, at least one hour before and two hours after a meal. Dose modifications are recommended for adverse reactions and drug interactions.

Patients must be selected for treatment with AYVAKIT based on the presence of a PDGFRA exon 18 mutation.

DOSAGE FORMS AND STRENGTHS Tablets: 100 mg, 200 mg and 300 mg.

Orphan status: Orphan

SAFETY PROFILE

CONTRAINDICATIONS

None.

WARNINGS AND PRECAUTIONS

- Intracranial hemorrhage: Intracranial hemorrhage have been reported. Withhold treatment for Grade 1 or 2 reactions until resolution and then resume at a reduced dose. Permanently discontinue treatment for recurrent Grade 1 or 2 reactions or first occurrence of Grade 3 or 4 reactions.
- <u>Central nervous system (CNS) effects:</u> CNS adverse reactions can occur. Depending on the severity, continue at same dose, withhold and then resume at same or reduced dose upon improvement, or permanently discontinue treatment.
- <u>Embryo-fetal toxicity:</u> Can cause fetal harm.

ADVERSE REACTIONS

Most common adverse reactions: edema, nausea, fatigue/asthenia, cognitive impairment, vomiting, decreased appetite, diarrhea, hair color changes, increased lacrimation, abdominal pain, constipation, rash and dizziness.

DRUG INTERACTIONS

- Strong and Moderate CYP3A Inhibitors: Avoid coadministration with strong and moderate CYP3A inhibitors. If co-administration with a moderate inhibitor cannot be avoided, reduce dose of AYVAKIT.
- Strong and Moderate CYP3A Inducers: Avoid coadministration with strong and moderate CYP3A inducers.

USE IN SPECIFIC POPULATIONS

- <u>Pregnancy:</u> Can cause fetal harm. Verify the pregnancy status of females of reproductive potential prior to initiating.
- <u>Females and males of reproductive potential:</u> Advise of the potential risk to a fetus and to use effective contraception during treatment and after the final dose.
- Lactation: Advise not to breastfeed.
- <u>Pediatric use:</u> Safety and effectiveness have not been established.
- <u>Geriatric use:</u> No overall differences in safety or efficacy were observed between these patients and younger adult patients.

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| Ayyakit" (avaprifinib) Tablets, for oral use Blueprint Medicines Corporation 01/09/2020 HERPEUTIC CLASS Antineoplastic agent; Tyrosine kinase mibitor. SAFETY PROFILE (continuation) DAPAPROVE INDICATIONS Wavakit" is a kinase inhibitor indicated for adults with unsectable or metastic gastrointestinal stromal fumor (GIST) harboring a platelet-derived growth factor receptor alpha (PDGFRA) BR42V mutations. SECIENC POPULATIONS (continuation) DSAGE AND ADMINISTRATION The recommended for aburs after a meal. Dose modifications are recommended for adverse reactions and fragi interactions. Image: Herein the reaction of adverse in the recommended for patients with severe hepatic impairment. The recommended dose of has not been established for patients with severe hepatic impairment. The recommended for base of has not been established for patients with severe hepatic impairment. Doscoccoccoccoccoccoccoccoccoccoccoccocco | DRUG NAME | | | MANU | JFACTURE | <u>R</u> | | | <u>APP</u> | ROVAL | . DATE | | | |
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THERAPEUTIC CLASS Endocrine and metabolic agent; Monoclonal antibody

FDA-APPROVE INDICATION(S)

Tepezza[™] is a monoclonal antibody (mAb) and a targeted inhibitor of the insulin-like growth factor 1 receptor (IGF-1R) indicated for the treatment of Thyroid Eye Disease (TED).

DOSAGE AND ADMINISTRATION

The recommended dose is an intravenous infusion of 10 mg/kg for the initial dose followed by an intravenous infusion of 20 mg/kg every three weeks for 7 additional infusions (for a total of 8 infusions).

DOSAGE FORMS AND STRENGTHS

For Injection: 500 mg lyophilized powder in a single-dose vial for reconstitution.

Orphan status: Orphan

SAFETY PROFILE

CONTRAINDICATIONS

None.

WARNINGS AND PRECAUTIONS

- Infusion reactions: May cause infusion reactions. If an infusion reaction occurs, consideration should be given to pre-medicating with an antihistamine, antipyretic, corticosteroid and/or administering all subsequent infusions at a slower infusion rate.
- <u>Exacerbation of pre-existing Inflammatory Bowel</u> <u>Disease (IBD):</u> May cause an exacerbation of preexisting IBD. Patients with pre-existing IBD must be monitor for flare of disease. If IBD exacerbation is suspected, consider discontinuation.
- <u>Hyperglycemia:</u> May occur. Glucose levels must be monitor in all patients. Patients with pre-existing diabetes should be under appropriate glycemic control before receiving Tepezza™.

ADVERSE REACTIONS

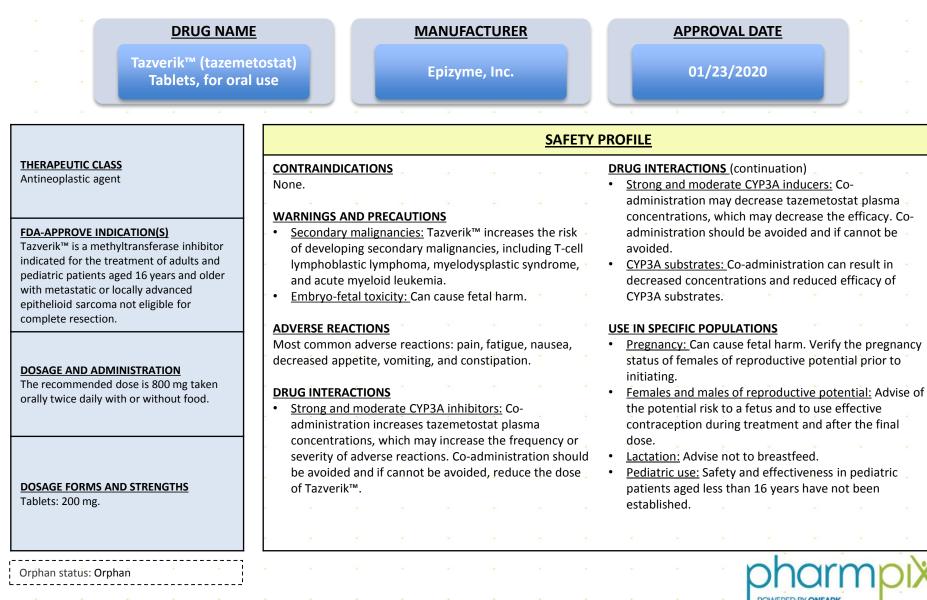
Most common adverse reactions: muscle spasm, nausea, alopecia, diarrhea, fatigue, hyperglycemia, hearing impairment, dry skin, dysgeusia and headache.

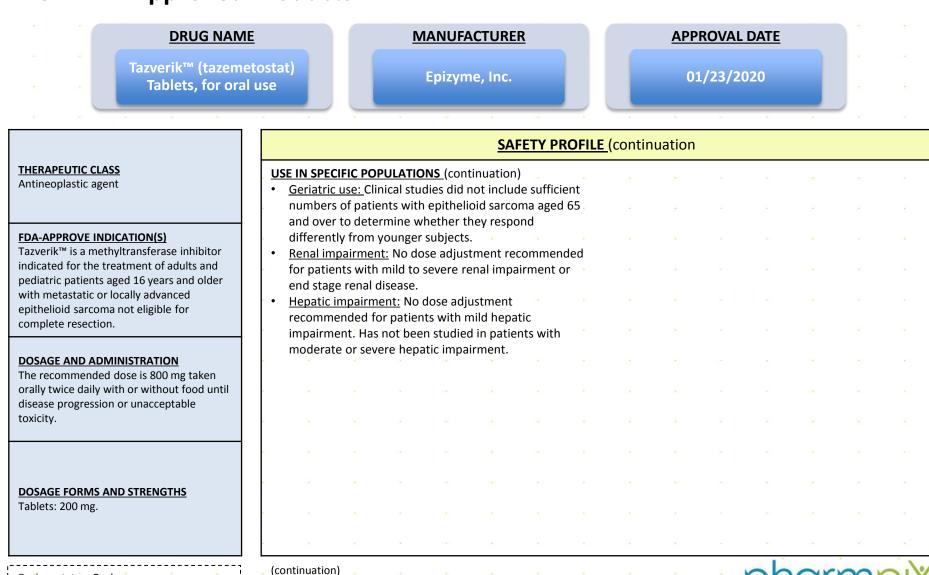
DRUG INTERACTIONS

No studies evaluating the drug interaction potential of have been conducted.

USE IN SPECIFIC POPULATIONS

- <u>Pregnancy</u>: Based on animal data, may cause fetal harm.
- <u>Females of reproductive potential</u>: Advise of the potential risk to a fetus and to use effective contraception during treatment and after the final dose.
- <u>Pediatric use:</u> Safety and effectiveness have not been established.
- <u>Geriatric use:</u> No overall differences in safety or efficacy were observed between these patients and younger adult patients.





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THERAPEUTIC CLASS

Immunological Agent; Immunotherapy

FDA-APPROVE INDICATION(S)

Palforzia[™] is an oral immunotherapy for the mitigation of allergic reactions, including anaphylaxis, that may occur with accidental exposure to peanut in patients with peanut allergy.

DOSAGE AND ADMINISTRATION

Palforzia[™] is administered orally in three phases: Initial Dose Escalation, Up-Dosing, and Maintenance. The Initial Dose Escalation phase is given on a single day. The Up-Dosing phase consists of 11 increasing dose levels and occurs over several months. Initial Dose Escalation, and the first dose of each Up-Dosing level, are administered under supervision of a healthcare professional in a healthcare setting with the ability to manage potentially severe allergic reactions, including anaphylaxis. Refer to package insert for details.

DOSAGE FORMS AND STRENGTHS

Orphan status: N/A

Powder for oral administration supplied in 0.5 mg 1 mg, 10 mg, 20 mg and 100 mg Capsules or 300 mg Sachets.

SAFETY PROFILE

CONTRAINDICATIONS

- Uncontrolled asthma.
- History of eosinophilic esophagitis or other eosinophilic gastrointestinal disease.

WARNINGS AND PRECAUTIONS

- Black Box Warning: Anaphylaxis Can occur at any time during therapy. Injectable epinephrine must be prescribed and patient must: be instructed on its appropriate use and to seek immediate medical care upon its use, and receive education to recognize the signs and symptoms of anaphylaxis. Do not administer to patients with uncontrolled asthma. Dose modifications may be necessary after anaphylaxis. Patient must be observed during and after administration of the Initial Dose Escalation and the first dose of each Up-Dosing level. Because of the risk of anaphylaxis, Palforzia[™] is only available through a restricted program called the PALFORZIA REMS.
- Asthma: Ensure patients with asthma have their asthma under control prior to initiation. Therapy should be temporarily withheld if the patient is experiencing an acute asthma exacerbation. Palforzia™ has not been studied in patients with severe asthma.

WARNINGS AND PRECAUTIONS (continuation)

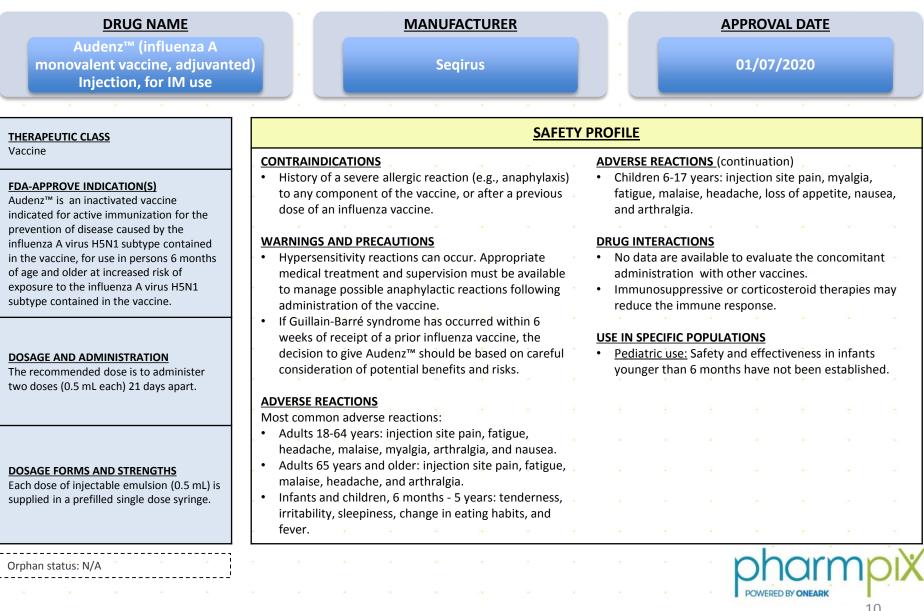
- Eosinophilic esophagitis: Palforzia[™] is associated with eosinophilic esophagitis. Monitor patients for signs and symptoms and discontinue if eosinophilic esophagitis is suspected.
- ٠ Gastrointestinal reactions: If patients develop chronic or recurrent local gastrointestinal allergic symptoms, consider dose modification or discontinuation of treatment.

ADVERSE REACTIONS

Most common adverse reactions: abdominal pain, vomiting, nausea, oral pruritus, oral paresthesia, throat irritation, cough, rhinorrhea, sneezing, throat tightness, wheezing, dyspnea, pruritus, urticaria, anaphylactic reaction, and ear pruritus.

USE IN SPECIFIC POPULATIONS

- Pregnancy: There is a pregnancy exposure registry that monitors pregnancy outcomes in women exposed to Palforzia[™] during pregnancy.
- Pediatric use: Safety and effectiveness have not been ٠ established in persons younger than 4 years of age.
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New FDA Approved Formulations, Dosage Forms, Combination Products and Other Differences

| Drug name / Manufacturer | Therapeutic class | Indication(s) | Date | Comments |
|--|--|---|--------------|--|
| Valtoco™ (diazepam) Nasal Spray / Neurelis, Inc. | Central nervous system agents; Anticonvulsant; | Acute treatment of intermittent, stereotypic episodes of frequent seizure | 01/10/2020 | Valtoco [™] is a new formulation of diazepam in nasal spray. Before this approval, diazepam was available in generic as an injection solution, oral solution, and oral tablet. In addition, diazepam was available under the brand name Valium [™] |
| | Benzodiazepine | activity (e.g. seizure clusters, acute repetitive seizures) that | | as an oral tablet. |
| | | are distinct from a patient's usual seizure pattern in patients with epilepsy 6 years | | Orphan status: Orphan. Controlled substance: CIV |
| | | of age and older | | |
| Numbrino™ (cocaine hydrochloride) Nasal | Local anesthetic | For the introduction of local anesthesia of the mucous | • 01/10/2020 | Drug Already Marketed without Approved NDA. |
| Solution / Lannett Company, Inc. | | membranes for diagnostic procedures and surgeries on | | Controlled substance: CII |
| | | or through the nasal cavities of adults | | |
| Monoferric™ (ferric derisomaltose) injection | Iron supplement | Treatment of iron deficiency anemia in adult patients: | 01/16/2020 | Monoferric [™] is new iron formulation for iron replacement as a single dose in one visit for patients with iron deficiency anemia. |
| / Novo Nordisk Inc. | | who have intolerance to oral iron or have had | | |
| | | unsatisfactory response to oral iron | | |
| | | who have non- hemodialysis dependent | | |
| | | chronic kidney disease | | |
| Trijardy XR™ (empagliflozin, | Antidiabetic | As an adjunct to diet and exercise to improve glycemic | 01/27/2020 | Trijardy XR [™] is a new once-daily therapy combining 3 well-established drugs in one single tablet: empagliflozin, a sodium glucose cotransporter 2 (SGLT2) inhibitor linguistic a dispridu particles 4 (DDR 4) inhibitor and matfermin |
| linagliptin and metformin hydrochloride) | | control in adults with type 2 diabetes mellitus; Empagliflozin is indicated to | | inhibitor, linagliptin, a dipeptidyl peptidase-4 (DPP-4) inhibitor, and metformin hydrochloride (HCl), a biguanide. |
| Extended-Release Tablets / Boehringer | 4) (H | reduce the risk of cardiovascular death in adults | | |
| Ingelheim and Eli Lilly and Company | | with type 2 diabetes mellitus and established cardiovascular | | |
| | 5 | disease | | |

New FDA Approved Formulations, Dosage Forms, Combination Products and Other Differences

| Drug n Manuf | | r | Therap class | oeutic | * | Indicati | ion(s) | | - Date | (a.) | - Cor | nments | 4 | 11 | - | | (*) [*] | - | e. |
|------------------------------------|-----------|--------|---------------------|--------|---|-----------------------|----------------------------|----------------------------------|--------|----------------------|-------|--------------------------------|--------|-------------|--------------------------|---------------------|------------------------|------------|------------|
| Bynfezia (octreoti injection | de acetat | | Somatos analogue | | | hormo like gr | owth fact | and insulin- or 1 (IGF-1) | 01/28, | /2020 | | fezia Pen™ is e-filled pen. | | w formulat | ion of th | ne somatos | statin ana | logue octr | reotide in |
| Inds Ltd | | | | | | patier | nts with ac | C] in adult cromegaly | | | | | | | | | | | |
| | | | | | | respoi | | nadequate cannot be rgical | | | | | | | | | | | |
| | | | | | | resect | ion, pituit | ary | | | | | | | | | | | |
| | | | | | | bromo maxin | ocriptine r nally toler | mesylate at ated doses | | | | | | | | | | | |
| | | | | | | | ea/flushir | ng episodes | | | | | | | | | | | |
| | | | | | | | oid tumoi | metastatic rs in adult | | | | | | | | | | | |
| | | | | | | • Treatr | ment of pr | ofuse associated | | | | | | | | | | | |
| | | | | | | with v peptic | asoactive | intestinal (VIPomas) | | | | | | | | | | | |
| Ajovy™ (vfrm) Inj | | zumab- | Antimiga | rine | | Preventiv migraine | | | 02/27 | / <mark>2</mark> 020 | The | FDA has app | proved | l an auto-i | njec <mark>t</mark> or c | levice for <i>i</i> | Ajovy [™] inj | jection. | |
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New FDA Approved Indications

| Drug name / Manufacturer | Therapeutic class | Previous indication(s) | New indication(s) | Date | Comments |
|--|--|--|---|------------|--|
| Keytruda™ (pembrolizumab) for Injection / Merck | Antineoplastic agent; PD-1 (programmed death receptor- 1)-blocking antibody | Treatment of melanoma, non-small cell lung cancer, small cell lung cancer, head and neck squamous cell carcinoma, classical Hodgkin lymphoma, primary mediastinal large B-cell lymphoma, urothelial carcinoma, microsatellite instability-high cancer, gastric cancer, esophageal cancer, cervical cancer, hepatocellular carcinoma, Merkel cell carcinoma, renal cell carcinoma, and endometrial carcinoma | Treatment of patients with Bacillus Calmette- Guerin (BCG)- unresponsive, high-risk, non-muscle invasive bladder cancer (NMIBC) with carcinoma in situ (CIS) with or without papillary tumors who are ineligible for or have elected not to undergo cystectomy | 01/08/2020 | This approval was based on data from the KEYNOTE-057 trial, where Keytruda [™] demonstrated a complete response rate of 41% (range: 31 to 51). Among the 39 patients who achieved a complete response, the median duration of response was 16.2 months (range: 0.0+ to 30.4+), and 46% had a response of 12 months or longer. |
| Ozempic™ (semaglutide) Injection / Novo Nordisk | Antidiabetic; Glucagon-like peptide-1 (GLP- 1) analog | As an adjunct to diet and exercise to improve glycemic control in adults with type 2 diabetes mellitus (T2DM) | To reduce the risk of major adverse cardiovascular events in adults with T2DM and established cardiovascular disease | 01/16/2020 | This approval was based on results from the SUSTAIN 6 cardiovascular outcomes trial (CVOT) which examined the cardiovascular safety of adding Ozempic [™] or placebo to standard of care in adults with T2DM and established cardiovascular disease. Results showed that Ozempic [™] significantly reduced the risk of the occurrence of a three- |
| | | | | | component major adverse cardiovascular events (MACE) endpoint consisting of cardiovascular death, non-fatal heart attack or non-fatal stroke. The estimated relative risk reduction |
| | | | | | of MACE was 26% vs placebo (HR: 0.74; 95% CI: 0.58, 0.95; p- value <0.001 for non-inferiority; median observation time: 2.1 years) with the primary composite outcome occurring in 6.6% of |
| | | | | | patients treated with Ozempic [™] vs 8.9% with placebo. In terms of safety, gastrointestinal adverse events were more frequent in |
| | * * | | | | the Ozempic [™] group than in the placebo group., and the majority of gastrointestinal adverse events occurred during the first 20 weeks |
| * (*) | | | | | first 30 weeks. |

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New FDA Approved Indications

| Drug n Manuf | ame / facturer | -The clas | erapeutic ss | | Previous ndicatio | | | New | indicat | ion(s) | Dat | e - | Comr | nents | | | | | |
|-------------------------------|-------------------|--------------|--------------------------------|-----|---|---|---|--------------------|---------|--------|-------|--------|-------------------|-----------------------|-----------------------|--|---------|----------|----------|
| Dificid™ (fidaxom Merck | | agen | -infective ht; bacterial | , d | reatment <i>lifficile</i> -asso CDAD) | | | alterec childre | | | 01/24 | 4/2020 | was al formula | ready av ation (or | ailable i al suspe | oved for th n the mar nsion) was | ket. In | addition | n, a new |
| | (at) | | <i>k</i> . | 4 | * | | 4 | and old | der 🔒 | | * | * | childre | n aged six | months | and older. | | * | * |
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New First Time Generic Drug Approval

| Drug | name / | Manu | facture | ſ . | The | rapeut | ic Class | - | Da | ate | 2 | Ģ | ieneric | for: | | | | - - |
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| Hydroco Capsule | odone Bit s 10 mg, : | artrate Ex 15 mg, 20 | ttended Re mg, 30 m | elease g, 40 mg | Analg | gesic; Opi | oid | | 01, | /21/2020 | | Z | ohydro ER | | | | | |
| and 50 | mg / Alvo | gen Inc. | 0, | 0, 0 | | | | | | | | | | | | | | |
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| Drug n | name / | Manuf | facturer | Date | | Indicati | on(s) | | Com | ments | | | | | | | Impac | t 📕 |
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