WASHINGTON STATE UNIVERSITY
College of Pharmacy and Pharmaceutical Sciences

Drug Information Center

Highlights of FDA Activities – 2/1/23 – 2/28/23

FDA Drug Safety Communications & Drug Information Updates:

COVID-19 EUA Testing Requirement Change: Paxlovid and Lagevrio 2/1/23

The FDA revised the Letters of Authorization for two EUAs, Paxlovid and Lagevrio, to remove the requirement for positive test results to prescribe these products. It is recommended that providers still use direct SARS-CoV-2 viral testing to help diagnose COVID-19. In cases of high-risk patients with mild-moderate symptoms and recent known exposure but with a negative direct SARS-CoV-2 test, authorized therapeutics may be appropriate given the terms and conditions of the products' authorization are met.

FDA Updated Draft Guidance to Help Increase Supply of Children's Ibuprofen 2/9/23

FDA has revised the immediately-in-effect guidance on compounding certain ibuprofen products. FDA published this update to address increased demand for fever-reducing medications among state licensed pharmacies. On January 20, 2023, FDA released these guidelines for hospitals and health-systems.

Hospira's Unapproved Potassium Phosphates Drug Product: Drug Safety – Infants at Risk for Aluminum Toxicity 2/13/23

The FDA warned healthcare professionals and pharmacies to avoid using Hospira's unapproved potassium phosphates drug product in pediatric patients because it may produce aluminum exposures up to twice the FDA-recommended limit for parenteral nutrition, with additional aluminum exposure expected from other components of parenteral nutrition. The FDA considers Fresenius Kabi's product appropriate for all ages and CMP Development's product appropriate for pediatric patients 12 years and older who weight at least 40 kg and adults weighing at least 45 kg.

Major Medication/Drug-Related Product Recalls Announced Through MedWatch:

Levothyroxine Oral Solution by IBSA Pharma Inc: Recall – Subpotency 2/1/2023

IBSA Pharma Inc. voluntarily recalled 27 lots of TIROSINT-SOL (levothyroxine sodium) Oral Solution due to analyses revealing lower levels of T4 for some lots. The full list of recalled lots can be found on the FDA site.

Lubricant Eye Drops by Global Pharma Healthcare: Recall – Possible contamination 2/2/2023

Global Pharma Healthcare voluntarily recalled all lots within expiry of Artificial Tears Lubricant Eye Drops distributed by EzriCare (NDC 79503-0101-15) and Delsam Pharma (NDC 72570-121-15) due to possible contamination with carbapenem-resistant *Pseudomonas aeruginosa*. These products were distributed throughout the US.

CADD System Administration Sets and Cassette Reservoirs by Smiths Medical: Recall – Issues with Medication Delivery 2/2/2023

Smith Medical recalled CADD Administration Sets and Medication Cassette Reservoirs due to the possibility of tubing occlusion which prevents proper delivery of medication and false "no disposable attached (NDA)" alarm which prevents pump use. The use of alternative CADD infusion sets is recommended.

Skippack Medical Lab SARS-CoV-2 Antigen Rapid Test, Universal Meditech: Recall – Not Approved 2/8/23

Universal Meditech Inc recalled Skippack Medical Lab Covid-19 Direct Antigen Rapid Tests (Colloidal Gold) because the tests were not authorized or approved by the FDA and the manufacturer could not provide the FDA with adequate validation data to show the test's performed accurately.

Hand Sanitizer by nanoMaterials Discovery Corporation: Recall – Presence of methanol 2/21/2023
nanoMaterials Discovery Corporation recalled all lots of its alcohol antiseptic 80% alcohol solution branded as "Snowy Range Blue" NDC 75288-100-04 packaged in 4-oz spray dispensers due to exceeding FDA limits for methanol. The product is used as a hand sanitizer.

Artificial Eye Ointment, Delsam Pharmacy: Recall – Microbial Contamination 2/27/23
Global Pharma Healthcare recalled batch H29 of Artificial Eye Ointment (mineral oil 15%, white petrolatum 83%, 3.5 g per 1/8 oz, NDC 72570-122-35, UPC 3 72570 012235 3), distributed by Delsam Pharmacy, due to possible microbial contamination and product leakage. The FDA warned consumers and health care professionals not to purchase or use the product.

Dietary Supplement Recalls & Public Notifications

Notifications were issued regarding undeclared active ingredients or contaminants in the following products. Patients are advised not to purchase or use these products.

Product	***Promoted Use***	***Undeclared Ingredient(s) or Contaminants***
Alfia Weight Loss Capsules	Weight loss	Silbutramine[1]
Diep Bao Cream*	Atopic dermatitis	Lead
Manners Energy Boost	Energy booster	Tadalafil
PrimeZen Black 6000*	Sexual enhancement	Sildenafil, tadalafil

[1] Sibutramine has been associated with increased cardiovascular events; removed from market for safety reasons in 2010[FDA]

New Product Shortages	***Date Initially Posted***
Capecitabine tablets	2/9/23
Palifermin (Kepivance) lyophilized powder for injection	2/10/23
Cisplatin injection	2/10/23
Rocuronium bromide injection	2/15/23

Brand Name or Sole Source Product Discontinuations/Withdrawals	***Date Posted***
Ritonavir oral solution (Norvir, AbbVie): 80 mg/mL, 240 mL bottle; ritonavir remains available in other formulations.	2/1/23
Paliperidone extended-release tablets (Invega, Janssen): 1.5 mg, 30 count (NDC 0024-5740-00) and 10 blister pack (NDC 50458-554-10); generics will remain available.	2/3/23
Lixisenatide injection (Adlyxin, Sanofi): Starter Pack (NDC 00024-5745-02) and Maintenance Pack (NDC 00024-5747-02). Individual prefilled pens remain available.	2/3/23
Belantamab mafodotin injection, powder for solution (Blenrep, GSK): 100 mg (NDC 0173-08896-01). The product is no longer available as the BLA has been withdrawn.	2/10/23

New Drug Approvals:	***Description (See Attached Drug Summaries)***	***Date Approved***
Daprodustat / Jesduvroq / GlaxoSmithKline LLC	Hypoxia-inducible factor prolyl hydroxylase for the treatment of anemia due to chronic kidney disease in adults receiving dialysis for at least four months	2/1/23
Velmanase alfa / Lamzede / Chiesi USA, Inc.	Recombinant human lysosomal enzyme (alpha-mannosidase) replacement for the treatment of non-central nervous system manifestations of alpha-mannosidosis	2/15/23
Sparsentan / Filspari / Travere Therapeutics, Inc.	Endothelin and angiotensin II receptor antagonist indicated to reduce proteinuria in adults with primary immunoglobulin A nephropathy (IgAN) at risk of rapid disease progression	2/17/23
Omaveloxolone / Skyclarys / Reata Pharmaceuticals, Inc.	Nuclear factor erythroid 2-related factor 2 (Nrf2) activator for the treatment of Friedreich's ataxia in adults and adolescents 16 years and older	2/28/23

New Indications:	***Description***	***Date Approved***
Sacituzumab govitecan-hziy / Trodelvy / Gilead Sciences, Inc.	Treatment of adult patients with unresectable locally advanced or metastatic hormone receptor (HR)-positive, human epidermal growth factor receptor 2 (HER2)-negative (IHC 0, IHC 1+ or IHC 2+/ISH–) breast cancer who have received endocrine-based therapy and at least two additional systemic therapies in the metastatic setting	2/3/23
Lanadelumab-flyo / Takhzyro / Takeda Pharmaceuticals	Indication expanded for use in pediatric patients 2 to <12 years of age for prophylaxis of attacks of hereditary angioedema	2/3/23
Empagliflozin and metformin / Synjardy (XR) / Boehringer Ingelheim Pharmaceuticals, Inc.	To reduce the risk of cardiovascular death and hospitalization for heart failure in adults with heart failure	2/6/23
Aflibercept / Eylea / Regenron Pharmaceuticals, Inc.	Treatment of retinopathy of prematurity	2/8/23
Dostarlimab-gxly / Jemperli / GlaxoSmithKline LLC	Monotherapy for the treatment of adult patients with recurrent or advanced mismatch repair deficient (dMMR) endometrial cancer, as determined by an FDA-approved test, that has progressed on or following prior treatment with a platinum-containing regimen in any setting and are not candidates for curative surgery or radiation	2/9/23
Ipilimumab / Yervoy / Bristol-Myers Squibb Co.	Indication expanded for the treatment of unresectable or metastatic melanoma, in combination with nivolumab, to pediatric patients 12 year and older	2/15/23
Nivolumab / Opdivo / Bristol-Myers Squibb Co.	Expanded the following indications to pediatric patients 12 years and older: • Treatment of unresectable or metastatic melanoma as a single agent • Treatment of unresectable or metastatic melanoma in combination with ipilimumab • Adjuvant treatment of melanoma with involvement of lymph nodes or metastatic disease who have undergone complete resection.	2/15/23
Leuprolide acetate / Lutrate Depot / InvaGen Pharmaceuticals, Inc.	Indication revised to treatment of advanced prostate cancer	2/28/23
Sarilumab / Kevzara / Sanofi	Treatment of adult patients with polymyalgia rheumatica who have had an inadequate response to corticosteroids or who cannot tolerate corticosteroid taper.	2/28/23

New Dosage Forms or Formulation:	***Description***	***Date Approved***
Atorvastatin Calcium / Atorvaliq / CMP DEV LLC	Oral Suspension: 20 mg/5 mL; for treatment of hyperlipidemia to lower the risk of MI and stroke in people with CHD, type 2 DM, or other risk factors	2/1/23
Tezepelumab-ekko / Tezspire / AstraZeneca	Pre-filled autoinjector: 210 mg/1.91 mL (110 mg/mL); can be administered by patients/caregivers after proper training at the discretion of the prescriber	2/1/23
Pegcetacoplan / Syfovre / Apellis Pharmaceuticals, Inc.	Injection: 150 mg/mL; intravitreal injection for the treatment of geographic atrophy due to age-related macular degeneration	2/17/23
Neostigmine Methylsulfate and Glycopyrrolate / Prevduo / Slayback Pharma LLC	3 mL pre-filled syringe: 1 mg/mL neostigmine methylsulfate and 0.2 mg/mL glycopyrrolate; fixed-dose combination of a cholinesterase inhibitor and antimuscarinic agent indicated in patients at least 2 years of age; used to reverse the effects of neuromuscular blocking agents (NMBA) post-surgery while decreasing peripheral muscarinic effects associated with cholinesterase inhibition after NMBA reversal	2/23/23

Compiled by:

Terri Levien, Pharm.D.
Brittney Kessel, Pharm.D., PGY1 Drug Information Resident
Esther Lazo, Doctor of Pharmacy Candidate 2023
Ted Sandberg, Doctor of Pharmacy Candidate 2023

Drug Information Center
College of Pharmacy and Pharmaceutical Sciences
Washington State University
412 E. Spokane Falls Blvd.
Spokane, WA 99202-2131
(509) 358-7662
Pharmacy.druginfo@wsu.edu

Daprodustat / Jesduvroq / GlaxoSmithKline	
Generic Name / Brand Name / Company	Daprodustat / Jesduvroq / GlaxoSmithKline
Date of approval	2/1/23
Drug Class (Mechanism of Action if novel agent)	Hypoxia-inducible factor prolyl hydroxylase inhibitor; increases endogenous erythropoietin
Indication	Treatment of anemia due to chronic kidney disease in adults who have been receiving dialysis for at least four months
Comparative agent – Therapeutic interchange?	Erythropoietin, darbepoetin
Dosage forms/strengths.	Tablets: 1 mg, 2 mg, 4 mg, 6 mg, and 8 mg.
Common Dose/sig	Once daily dosing. If hemoglobin < 9 g/dL, start with 4 mg daily. If hemoglobin ≥9 to ≤10 g/dL, start with 2 mg daily. If hemoglobin >10 g/dL, start with 1 mg daily. Use lowest effective dose; do not target a hemoglobin higher than 11 g/dL.
DEA Schedule	N/A
Date of market availability	Available
Similar Medication Names	None identified
Clinical Use Evaluation	
Common Adverse Effects	≥10%: hypertension, abdominal pain
Severe Adverse Effects	Increased risk of death, myocardial Infarction, stroke, venous thromboembolism, and thrombosis of vascular access.
Severe Drug-Drug Interactions	CYP2C8 inhibitors and inducers: adjust dose with moderate inhibitors, contraindicated with strong inhibitors
Severe Drug-Food Interactions	None known
Important Labs Values to assess prior to order entry or at point of clinical follow up.	Assess ALT, AST, alkaline phosphatase, and total bilirubin prior to initiation. Evaluate iron status before and during treatment; administer supplemental iron when serum ferritin is less than 100 mcg/mL or when serum transferrin saturation is less than 20%.
Used in Pediatric Areas	Safety and efficacy not established in pediatric patients
Renal or Hepatic Dosing	Reduce the starting dose in patients with Child-Pugh Class B hepatic impairment. Not recommended in Child-Pugh Class C hepatic impairment.
Critical Issues (i.e., contraindications, warnings, etc) that should be emphasized	Contraindications: - Use with strong CYP2C8 inhibitors - Uncontrolled hypertension Warnings and Precautions: - Boxed warning: increased risk of death, MI, stroke, VTE, and thrombosis of vascular access. The lowest dose sufficient to reduce the need for red blood cell transfusions should be used. - Risk of hospitalization for heart failure - Hypertension - Gastrointestinal erosion - Not indicated for anemia of CKD in those not on dialysis - Malignancy
Special administration technique or considerations	Not a substitute for transfusions for immediate correction of anemia. Can be taken with or without food, and without regard to concomitant iron or phosphate binders or to timing or type of dialysis. Swallow tablets whole.
Prepared by	Ted Sandberg
Source	Jesduvroq (daprodustat) [prescribing information]. Durham, NC: GlaxoSmithKline; February 2023.

Velmanase alfa / Lamzede / Chiesi USA, Inc.	
Generic Name / Brand Name / Company	Velmanase alfa / Lamzede / Chiesi USA, Inc.
Date of approval	2/15/23
Drug Class (Mechanism of Action if novel agent)	Enzyme replacement therapy; provides exogenous source of alpha mannosidase to catalyze degradation of accumulated mannose-containing oligosaccharides
Indication	Treatment of non-central nervous system manifestations of alpha-mannosidosis in adults and pediatric patients
Comparative agent – Therapeutic interchange?	None
Dosage forms/strengths.	Injection: 10 mg velmanase alfa-tycv lyophilized power in a single dose vial for reconstitution
Common Dose/sig	Given as a 1 mg/kg (actual body weight) intravenous infusion once weekly. Administered over 60 minutes in those up to 49 kg; no more than 25 mL/h in those 50 kg and heavier.
DEA Schedule	N/A
Date of market availability	First half of 2023
Similar Medication Names	Velaglucerase alfa, vestronidase alfa
Clinical Use Evaluation	
Common Adverse Effects	>20%: hypersensitivity reactions including anaphylaxis, nasopharyngitis, pyrexia, headache, and arthralgia
Severe Adverse Effects	Infusion-associated reactions (including anaphylaxis and severe hypersensitivity reactions)
Severe Drug-Drug Interactions	None known
Severe Drug-Food Interactions	None known
Important Labs Values to assess prior to order entry or at point of clinical follow up.	Verify patients of reproductive potential are not pregnant prior to initiating treatment.
Used in Pediatric Areas	Pediatric patients reported a higher incidence of hypersensitivity reactions compared to adult patients.
Renal or Hepatic Dosing	No dosage adjustments required
Critical Issues (i.e., contraindications, warnings, etc) that should be emphasized	Contraindications - None Warnings & Precautions - Hypersensitivity reactions including anaphylaxis - Infusion-associated reactions - Embryo-fetal toxicity
Special administration technique or considerations	Consider pretreating with antihistamines, antipyretics, and/or corticosteroids. Use an infusion set equipped with a pump and a low protein binding, 0.2-micron in-line filter. Do not agitate the vial or syringe. Must be infused within 10 hours (24 hours if refrigerated) after removal from refrigerator, inclusive of total infusion time. Discard remaining product.
Prepared by	Esther L. Lazo
Source	*Lamzede* (velmanase alfa-tycv) [prescribing information]. Cary, NC: Chiesi, USA, Inc.; February 2023.

Sparsentan / Filspari / Travere Therapeutics, Inc.	
Generic Name / Brand Name / Company	Sparsentan / Filspari / Travere Therapeutics, Inc.
Date of approval	2/17/23
Drug Class (Mechanism of Action if novel agent)	Endothelin and angiotensin II receptor antagonist
Indication	Reduce proteinuria in adults with primary immunoglobulin A nephropathy at risk of rapid disease progression with a urine protein-to-creatinine ratio UPCR ≥ 1.5 g/g
Comparative agent – Therapeutic interchange?	None
Dosage forms/strengths.	Tablets: 200 mg and 400 mg tablets .
Common Dose/sig	Initiate with 200 mg orally once daily for 14 days, then increase to 400 mg orally once daily as tolerated
DEA Schedule	N/A
Date of market availability	Available through restricted distribution program
Similar Medication Names	Ambrisentan, bosentan
Clinical Use Evaluation	
Common Adverse Effects	≥5%: peripheral edema, hypotension (including orthostatic hypertension), dizziness, hyperkalemia, and anemia
Severe Adverse Effects	Acute kidney injury, transaminase elevation
Severe Drug-Drug Interactions	Renin-angiotensin system (RAS) inhibitors, endothelin receptor antagonists (ERAs), aliskiren, strong and moderate CYP3A inhibitors, and strong CYP3A inducers
Severe Drug-Food Interactions	Maintain the same dosing pattern in relationship to meals
Important Labs Values to assess prior to order entry or at point of clinical follow up.	Measure liver aminotransferases and total bilirubin prior to initiation. Monitor ALT and AST monthly for 12 months then every 3 months during treatment. Pregnancy testing is required prior to and after treatment.
Used in Pediatric Areas	Safety and efficacy not established in pediatric patients.
Renal or Hepatic Dosing	ALT/AST level > 3x and ≤ 8x ULN confirmed with repeat measure: - Interrupt treatment, monitor aminotransferase and bilirubin at least weekly and INR as needed. - May resume if other cause found; if resumed, initiate at 200 mg once daily and reassess hepatic enzyme levels and bilirubin within 3 days AST/ALT level > 8x ULN: - Stop treatment permanently if no other cause found.
Critical Issues (i.e., contraindications, warnings, etc) that should be emphasized	Contraindications - Renin-angiotensin system (RAS) inhibitors, endothelin receptor antagonists (ERAs), and aliskiren - Pregnancy Black Box Warnings - Hepatotoxicity (REMS) - Embryo-fetal toxicity (REMS) Warnings & Precautions - Hypotension - Acute kidney injury - Hyperkalemia - Fluid retention
Special administration technique or considerations	Swallow tablets whole with water prior to morning or evening meal. Avoid antacid use within 2 hours before or after administration.
Prepared by	Esther L. Lazo
Source	*Filspari* (sparsentan) [prescribing information]. San Diego, CA: Travere Therapeutics, Inc.; February 2023.

Omaveloxolone / Skyclarys / Reata Pharmaceuticals, Inc.	
Generic Name / Brand Name / Company	Omaveloxolone / Skyclarys / Reata Pharmaceuticals, Inc.
Date of approval	2/28/23
Drug Class (Mechanism of Action if novel agent)	Nuclear factor (erythroid-derived 2)-like 2 (Nrf2) pathway activator; involved in the cellular response to oxidative stress
Indication	Treatment of Friedreich's ataxia in adults and adolescents aged 16 years and older
Comparative agent – Therapeutic interchange?	N/A
Dosage forms/strengths.	Capsules: 50 mg
Common Dose/sig	150 mg (3 capsules) orally once daily
DEA Schedule	N/A
Date of market availability	Second quarter 2023
Similar Medication Names	Skyrizi
Clinical Use Evaluation	
Common Adverse Effects	≥20%: elevated liver enzymes (AST/ALT), headache, nausea, abdominal pain, fatigue, diarrhea, and musculoskeletal pain
Severe Adverse Effects	Elevation of hepatic transaminases and B-type natriuretic peptide
Severe Drug-Drug Interactions	Strong and moderate CYP3A4 inhibitors and inducers, hormonal contraceptives
Severe Drug-Food Interactions	Grapefruit juice and grapefruit
Important Labs Values to assess prior to order entry or at point of clinical follow up.	Obtain ALT, AST, bilirubin, BNP, and lipid levels prior to initiation and during treatment.
Used in Pediatric Areas	Efficacy and safety have not been established in pediatric patients younger than 16 years.
Renal or Hepatic Dosing	In moderate hepatic impairment (Child-Pugh Class B), reduce dose to 100 mg once daily with close monitoring; consider lowering to 50 mg once daily if adverse effects emerge. Avoid use in Child-Pugh Class C hepatic impairment.
Critical Issues (i.e., contraindications, warnings, etc) that should be emphasized	Contraindications - None Warnings & Precautions - Elevation of aminotransferases - Elevation of B-type Natriuretic Peptide and fluid overload - Lipid abnormalities
Special administration technique or considerations	Administer on an empty stomach, at least one hour before a meal. Swallow capsules whole.
Prepared by	Esther L. Lazo
Source	*Skyclarys* (omaveloxolone) [prescribing information]. Plano, TX: Reata Pharmaceuticals, Inc.; February 2023.