New Drug Update

Mikala Hillis, PharmD, MMHC, BCOP
Clinical Pharmacist Specialist, Genitourinary Oncology
Vanderbilt University Medical Center

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Disclosures

- Dr. Hillis has no relevant relationships with ineligible companies to disclose.

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Objectives

- Identify newly FDA-approved medications.
- Discuss the pharmacology of each new medication.
- Review indications, adverse effects, and pertinent interactions.
- Summarize supportive care measures and clinical pearls.
- Discuss results of major clinical studies and place in therapy of each agent.

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New Drugs

- **Malignant Hematology**
  - Teclistamab-cqyv (Tecvayli™)
  - Mosunetuzumab-axgb (Lunsumio™)
  - Olutasidenib (Rezlidhia™)
  - Pirtobrutinib (Jaypirca™)
- **Supportive Care**
  - Eflapegrastim (Rolvedon™)
- **Medical Oncology**
  - Tremelimumab (Imjudo®)
  - Retifanlimab-dlwr (Zynyz™)
  - Mirvetuximab soravtansine-gynx (Elahere™)
  - Elacestrant (Orserdu™)
  - Futibatinib (Lytgobi™)
  - Adagrasib (Krazati™)

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Malignant Hematology

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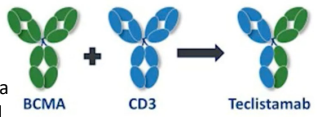
Teclistamab-cqyv (Tecvayli™)

- **Approval date**: 10/25/22
- **Indication**: relapsed or refractory multiple myeloma in adults who have received at least four lines of therapy, including a proteasome inhibitor, immunomodulatory agent, and anti-CD38 mAb



Tecvayli (teclistamab-cqyv) [prescribing information]. Horsham, PA: Janssen Biotech, Inc; Oct 2022.
Image: https://www.myeloma.org/videos/phase-i-study-teclistamab-humanized-b-cell-maturation-antigen-bcma-x-cd3-bispecific-antibody

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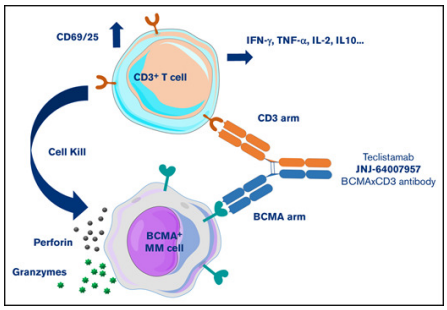
Teclistamab-cqyv (Tecvayli™)



Pillarisetti K, et al. Blood Adv. 2020.

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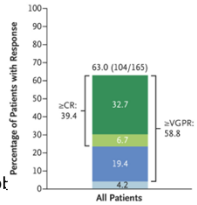
Teclistamab-cqyv (Tecvayli™) – MajesTEC-1

- Methods: phase 1/2, international study
- Patients: relapsed/refractory multiple myeloma after ≥3 lines of therapy (including IMiD, PI, and anti-CD38 mAb) (N=165)
- Efficacy:
  - Primary outcome:
    - Overall response rate
  - Select secondary outcomes:
    - Duration of response
    - Very good partial response or better
    - Complete response or better
- Safety:
  - CRS (72.1%), neurotoxicity (14.5%)
  - Neutropenia (70.9%), hypogammaglob infections (76.4%)



IMiD = immunomodulatory agent; PI = proteasome inhibitor; mAb = monoclonal antibody; CRS = cytokine release syndrome

Moreau P, et al. N Engl J Med. 2022;387:495-505.

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Teclistamab-cqyv (Tecvayli™) – MajesTEC-1

Cytokine Release Syndrome

CRS Severity	
Grade 1	50%
Grade 2	21%
Grade 3	1%
Grade 4	0
36% of patients received tocilizumab	

CRS Timing	
Step-up Dose 1	44%
Step-up Dose 2	35%
Cycle 1, Day 1	24%
Cycle 1, Day 8	5%
Cycle 1, Day 15	2%
Cycle 1, Day 22	1%
Cycle 2+	4%
Median duration of CRS: 2 days	

Moreau P, et al. N Engl J Med. 2022;387:495-505.

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Teclistamab-cqyv (Tecvayli™)

- Dosing:

Dosing Schedule	Day	Dose	
Step-Up Dosing Schedule	Day 1	Step-up dose 1	0.06 mg/kg
	Day 4	Step-up dose 2	0.3 mg/kg
	Day 7	First treatment dose	1.5 mg/kg
Weekly Dosing Schedule	1 week after first treatment dose and weekly thereafter	Subsequent treatment doses	1.5 mg/kg once weekly

Tecvayli (teclistamab-cqyv) [prescribing information]. Horsham, PA: Janssen Biotech, Inc; Oct 2022.

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Teclistamab-cqyv (Tecvayli™)

Adverse Effects
- Cytokine release syndrome
- Neurotoxicity
- Hepatotoxicity
- Neutropenia
- Infections

Clinical Pearls
- During step-up, pre-medicate with steroid, H1 receptor antagonist, and antipyretic
- Subcutaneous administration
- Requires REMS Program enrollment
- Antimicrobial prophylaxis

Tecvayli (teclistamab-cqyv) [prescribing information]. Horsham, PA: Janssen Biotech, Inc; Oct 2022.

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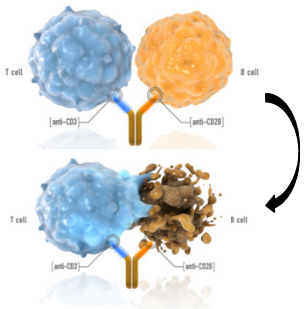
Mosunetuzumab-axgb (Lunsumio™)

- **Approval date**: 12/22/22
- **Indication**: Relapsed/ refractory follicular lymphoma after two or more lines of systemic therapy



Lunsumio (mosunetuzumab-axgb) [prescribing information]. San Francisco, CA: Genentech, Inc.; Dec 2022. Available at: https://www.lunsumio-hcp.com/about/how-lunsumio-works.html

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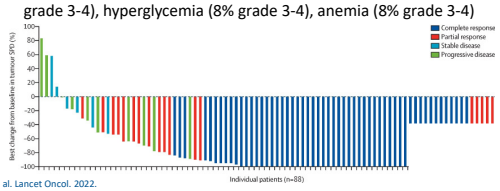
Mosunetuzumab-axgb (Lunsumio™) – GO29781

- Methods: phase 2, multicenter, single-arm trial
- Patients: Relapsed/refractory follicular lymphoma (N=90)
- Efficacy:
  - Primary outcome: Complete response rate
- Safety:
  - CRS (44%), neutropenia (27% grade 3-4), hypophosphatemia (17% grade 3-4), hyperglycemia (8% grade 3-4), anemia (8% grade 3-4)



Budde LE, et al. Lancet Oncol. 2022.

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Mosunetuzumab-axgb (Lunsumio™) – GO29781

Cytokine Release Syndrome

CRS Severity	
Grade 1	26%
Grade 2	17%
Grade 3	1%
Grade 4	1%
8% of patients received tocilizumab	
23% of patients hospitalized for CRS monitoring/treatment	

CRS Timing	
Cycle 1, Day 1	5 hours
Cycle 1, Day 8	20 hours
Cycle 1, Day 15	27 hours
Median duration of CRS: 3 days	

Budde LE, et al. Lancet Oncol. 2022.

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Mosunetuzumab-axgb (Lunsumio™)

- Dosing: 21-day cycles

Dosing Schedule	Premedication	Day	Dose	
Cycle 1	Dexamethasone 20 mg IV or methylpred 80 mg IV + DPH 50-100 mg + APAP 500-1000mg PO	Day 1	1 mg	Administer over a minimum of 4 hours
		Day 8	2 mg	
		Day 15	60 mg	
Cycle 2		Day 1	60 mg	Administer over 2 hours if infusions from Cycle 1 were well tolerated
Cycle 3+	As above for patients who experienced any grade CRS with previous dose	Day 1	30 mg	

Lunsumio (mosunetuzumab-axgb) [prescribing information]. San Francisco, CA: Genentech, Inc.; Dec 2022.

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Mosunetuzumab-axgb (Lunsumio™)

Adverse Effects
- Cytokine release syndrome
- Neurotoxicity
- Tumor flare
- Cytopenias
- Infections
- Rash

Clinical Pearls
- Do NOT infuse via in-line filter
- No REMS enrollment necessary

Lunsumio (mosunetuzumab-axgb) [prescribing information]. San Francisco, CA: Genentech, Inc.; Dec 2022.

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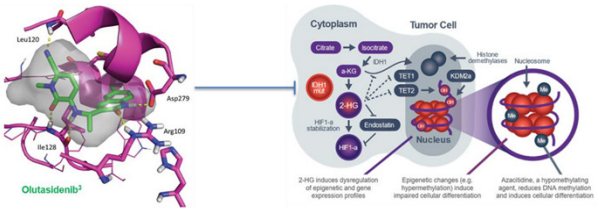
Olutasidenib (Rezlidhia™)

- **Approval date**: 12/1/22
- **Indication**: Relapsed/refractory acute myeloid leukemia (AML) with IDH1 mutation



Rezlidhia (olutasidenib) [prescribing information]. Greenville, NC: Metrics Contract Services.; Dec 2022. Cortes J, et al. Blood 2022;140:Abstract 2757.

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Olutasidenib (Rezlidhia™) – Study 2102-HEM-101

- Methods: phase 1/2, open-label, multicenter trial
- Patients: Relapsed/refractory AML with *IDH1* mutation (N=147)
- Efficacy:
  - Primary outcome: Complete remission (CR) + complete remission with partial hematologic recovery (CRh)

CR or CRh	CR	CRh	Median time to response	Median duration of CR + CRh
35%	32%	2.7%	1.9 months	25.9 months

- Safety:
  - Nausea (38%), constipation (26%), anemia (26%), leukocytosis (25%)

De Botton S, et al. Blood Adv. 2023.

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Olutasidenib (Rezlidhia™)

Dosing	• 150 mg PO twice daily • No adjustments for renal/hepatic dysfunction at baseline
Administration	• Administer on an empty stomach • Potential for significant drug-drug interactions: substrate of CYP1A2, CYP2C19, CYP2C8, CYP2C9, CYP3A4
Clinical Pearls	• Monitor for signs/symptoms of differentiation syndrome

Rezlidhia (olutasidenib) [prescribing information]. Greenville, NC: Metrics Contract Services.; Dec 2022.

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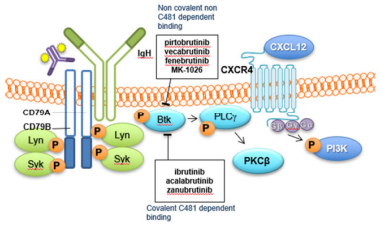
Pirtobrutinib (Jaypirca™)

- **Approval date**: 1/27/23
- **Indication**: Relapsed or refractory mantle cell lymphoma in adults who have had at least two lines of systemic therapy, including a Bruton Tyrosine Kinase (BTK) inhibitor



Jaypirca (pirtobrutinib) [prescribing information]. Indianapolis, IN: Eli Lilly and Company; January 2023.
Lewis KL, et al. J Pers Med. 2021.

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Pirtobrutinib (Jaypirca™) – BRUIN

- Methods: phase 1/2, open-label, multicenter, single-arm trial
- Patients: Previously treated B-cell malignancies (MCL: N=90)
- Efficacy:
  - Primary outcome: Overall response rate and duration of response

Overall Response	Complete Response	Partial Response	Median duration of response
58%	20%	38%	22 months

- Safety:
  - Fatigue (26%), diarrhea (22%), contusion (19%)
  - Hypertension (3%), hemorrhage (2%), atrial fibrillation (1%)

Wang ML, et al. Blood. 2022.

21

Pirtobrutinib (Jaypirca™)

Dosing	• 200 mg by mouth daily • Reduce dose to 100 mg daily for eGFR 15-29 mL/min
Administration	• Swallow whole with water, w/ or w/o food • Potential for significant drug-drug interactions: substrate of CYP3A4, P-gp, UGT1A8, UGT1A9 and inhibits BCRP, CYP2C19, CYP2C8, CYP3A4, P-gp
Clinical Pearls	• Consider risk vs. benefit of withholding pirtobrutinib for 3-7 days prior to/after surgery

Jaypirca (pirtobrutinib) [prescribing information]. Indianapolis, IN: Eli Lilly and Company; January 2023.

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Malignant Hematology Approval Summary

Drug	Class	Indication	Notable Adverse Effects
Teclistamab-cqyv (Tecvayli™)	BCMA-directed T-cell engager	Relapsed/refractory multiple myeloma after ≥4 lines	CRS, neurotoxicity, hepatotoxicity
Mosunetuzumab-axgb (Lunsumio™)	Bispecific CD20-directed T-cell engager	Relapsed/refractory follicular lymphoma after ≥2 lines	CRS, neurotoxicity, rash
Olutasidenib (Rezlidhia™)	IDH1 inhibitor	Relapsed/refractory AML with IDH1 mutation	Differentiation syndrome, hepatotoxicity
Pirtobrutinib (Jaypirca™)	Non-covalent BTK inhibitor	Relapsed/refractory mantle cell lymphoma after ≥2 lines	Hemorrhage, AFib

Available at: https://www.fda.gov/drugs/resources-information-approved-drugs/oncology-cancer-hematologic-malignancies-approval-notifications

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Which of the following are examples of a recently FDA-approved bispecific T-cell engager?

Pirtobrutinib	0%
Teclistamab-cqyv	0%
Olutasidenib	0%
Mosunetuzumab-axgb	0%

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Medical Oncology

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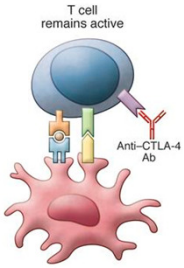
Tremelimumab-actl (Imjudo®)

- **Approval date**: 10/21/22
- **Indication**: unresectable hepatocellular carcinoma (uHCC) and metastatic non-small cell lung cancer (NSCLC) (ALK/EGFR wild-type)



Imjudo (tremelimumab-actl) [prescribing information]. Wilmington, DE: AstraZeneca Pharmaceuticals LP; October 2022.
Available at:
https://www.researchgate.net/publication/281623792_Cancer_immunotherapy_innovator_James_Allison_receives_the_2015_LaskerDeBakey_Clinical_Medical_Research_Award

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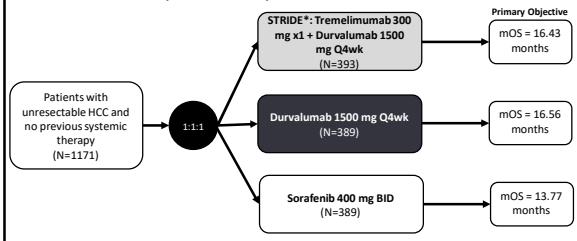
Tremelimumab-actl (Imjudo®) – HIMALAYA

- Methods: phase 3, open-label, international trial



- Safety:
  - Grade 3-4 AE: 50.5% STRIDE* vs. 37.1% durvalumab vs. 52.4% sorafenib

Abou-Alfa GK, et al. NEJM Evid. 2022.

*STRIDE Regimen: Single Tremelimumab Regular Interval Durvalumab

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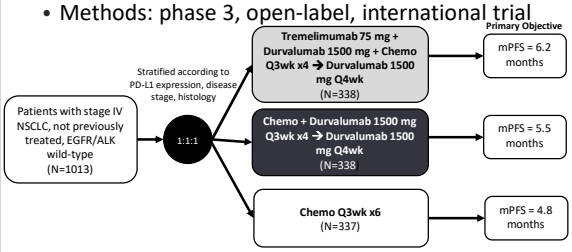
Tremelimumab-actl (Imjudo®) – POSEIDON

- Methods: phase 3, open-label, international trial



- Safety:
  - Grade 3-4 AE: 51.8% T+D+CT vs. 44.6% D+CT vs. 44.4% CT

Johnson ML, et al. J Clin Oncol. 2022.

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Tremelimumab-actl (Imjudo®)

Dosing	• uHCC: 300 mg x1 in combo with durvalumab 1500 mg every 4 weeks • NSCLC: 75 mg in combo with durvalumab and chemotherapy every 3 weeks x4, + 1 additional dose cycle 6 day 1
Adverse Effects	• Immune-mediated adverse reactions • Infusion-related reactions
Clinical Pearls	• Infuse via low-protein binding 0.2 or 0.22 micron filter

Imjudo (tremelimumab-actl) [prescribing information]. Wilmington, DE: AstraZeneca Pharmaceuticals LP; October 2022.

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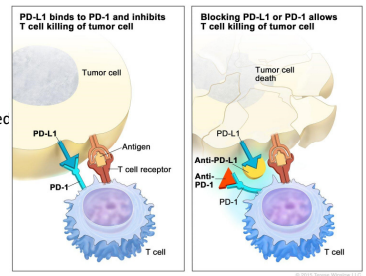
Retifanlimab-dlwr (Zynyz™)

- **Approval date**: 3/22/23
- **Indication**: metastatic or recurrent locally advanced Merkel cell carcinoma



Zynyz (retifanlimab-dlwr)] [prescribing information]. Wilmington, DE: Incyte Corporation; March 2023.
Available at: https://www.cancer.gov/about-cancer/treatment/types/immunotherapy/checkpoint-inhibitors

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Retifanlimab-dlwr (Zynyz™) – POD1UM-201

- Methods: phase 2, open-label, multiregional, single-arm trial
- Patients: metastatic or recurrent locally advanced Merkel cell carcinoma (N=65)
- Efficacy:
  - Primary outcome: Objective response and duration of response (DOR)

Objective Response	Median PFS	6-month DOR	12-month DOR
52%	13.8 months	76%	62%

- Safety:
  - Fatigue, musculoskeletal pain, pruritus, diarrhea, rash, pyrexia, nausea

Grignani G, et al. J for Immunother Cancer. 2021.

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Retifanlimab-dlwr (Zynyz™)

Dosing	• 500 mg IV every 4 weeks • No adjustment for baseline renal or hepatic impairment
Adverse Effects	• Immune-mediated adverse reactions • Infusion-related reactions
Clinical Pearls	• Do NOT administer as IV push or bolus • IV infusion over 30 minutes via in-line filter

Zynyz (retifanlimab-dlwr)] [prescribing information]. Wilmington, DE: Incyte Corporation; March 2023.

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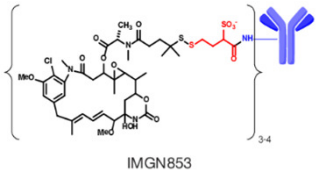
Mirvetuximab soravtansine-gynx (Elahere™)

- **Approval date**: 11/14/22
- **Indication**: folate receptor-alpha (FRα) positive, platinum-resistant epithelial ovarian, fallopian tube, or primary peritoneal cancer, after one to three prior systemic treatment regimens



Elahere (Mirvetuximab soravtansine-gynx)[prescribing information]. Waltham, MA: ImmunoGen, Inc.; November 2022.
Available at: https://www.biochempeg.com/article/315.html

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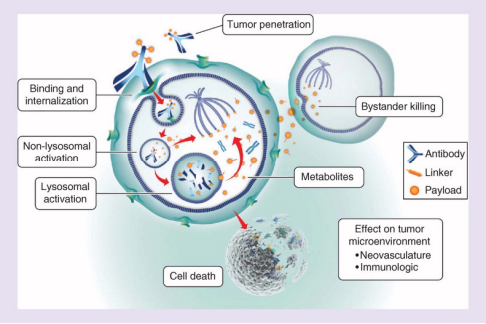
Mirvetuximab soravtansine-gynx (Elahere™)



Moore KN, et al. Future Oncol. 2018.

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Mirvetuximab soravtansine-gynx (Elahere™) – SORAYA

- Methods: phase 2, open-label, multiregional, single-arm trial
- Patients: FRα-high patients with platinum-resistant epithelial ovarian cancer who had received 1-3 prior therapies (N=105)
- Efficacy:
  - Primary outcome: Objective response rate

Objective Response	Complete Response	Partial Response	Median duration of response
32.4%	4.8%	27.6%	6.9 months

- Safety:
  - Blurred vision (41%), keratopathy (29%), nausea (29%)
  - Dose delays (33%), dose reductions (20%), discontinuations (9%)

Matulonis UA, et al. J Clin Oncol. 2023.

36

Mirvetuximab soravtansine-gynx (Elahere™)

Dosing	• 6 mg/kg IV every 3 weeks • No adjustment for baseline renal or hepatic impairment
Adverse Effects	• Ocular toxicity • Pneumonitis • Peripheral neuropathy • Keratopathy
Clinical Pearls	• Potential for significant drug-drug interactions: substrate of CYP3A4, P-gp • Calculate dose using adjusted ideal body weight • Ocular pre-medications required

Elahere (Mirvetuximab soravtansine-gynx)[prescribing information]. Waltham, MA: ImmunoGen, Inc.; November 2022.

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Which of the following recently FDA-approved drugs requires ophthalmic premedication and examination?

Retifanlimab-dlwr	0%
Tremelimumab	0%
Mirvetuximab soravtansine-gynx	0%
Elacestrant	0%

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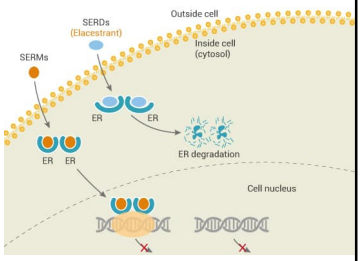
Elacestrant (Orserdu™)

- **Approval date**: 1/27/23
- **Indication**: postmenopausal women or adult men with estrogen receptor (ER)-positive, HER2*-negative, *ESR1*-mutated advanced or metastatic breast cancer with disease progression following ≥1 line endocrine therapy



*HER2: human epidermal growth factor receptor 2

Orserdu (elacestrant) [prescribing information]. New York, NY: Stemline Therapeutics, Inc.; January 2023.
Available at: https://www.cancer-research-network.com/breast-cancer/elacestrant-is-an-orally-available-serd-estrogen-receptor-degrader/2021-06-08/

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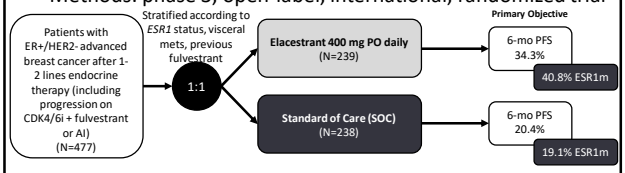
Elacestrant (Orserdu™) – EMERALD

- Methods: phase 3, open-label, international, randomized trial



- Safety:
  - Grade 3/4 AE: 7.2% Elacestrant vs. 3.1% SOC
  - Elacestrant: nausea (35%), fatigue (19%), reduced appetite, (15%), arthralgia (14%)

Bidard F, et al. J Clin Oncol. 2022.

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Elacestrant (Orserdu™)

Dosing and Administration	• 345 mg PO daily • Reduce dose to 258 mg daily in Child-Pugh class B hepatic impairment • Take with food to reduce nausea/vomiting
Adverse Effects	• Dyslipidemia • Nausea/vomiting • Decreased appetite • Musculoskeletal pain
Clinical Pearls	• Monitor lipid profile prior to initiation and periodically thereafter • Potential for significant drug-drug interactions: substrate of BCYP2A6, CYP2C9, CYP3A4, OATP2B1

Orserdu (elacestrant) [prescribing information]. New York, NY: Stemline Therapeutics, Inc.; January 2023.

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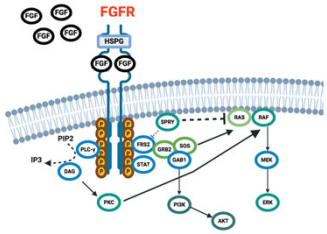
Futibatinib (Lytgobi™)

- **Approval date**: 9/30/22
- **Indication**: previously treated, unresectable, locally advanced or metastatic intrahepatic cholangiocarcinoma (CCA) harboring fibroblast growth factor receptor 2 (FGFR2) gene fusions or other rearrangements



Lytgobi (futibatinib) [prescribing information]. Princeton, NJ: Taiho Oncology, Inc.; September 2022.
Rizzo A, et al. Exp Opin Invest Drugs. 2021.

43

Futibatinib (Lytgobi™) – FOENIX-CCA2

- Methods: phase 2, open-label, international, single-arm trial
- Patients: unresectable or metastatic FGFR2 fusion or rearrangement-positive intrahepatic CCA with disease progression after ≥1 line systemic therapy (N=103)
- Efficacy:
  - Primary outcome: Overall response rate

Overall Response	Median duration of response	Median PFS	Median OS
42%	9.7 months	9.0 months	21.7 months

- Safety:
  - Grade 3 AE: hyperphosphatemia (30%), increase AST (7%), stomatitis (6%), fatigue (6%)

Goyal L, et al. NEJM. 2023.

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Futibatinib (Lytgobi™)

Dosing and Administration	• 20 mg (five 4 mg tablets) by mouth daily • No dosage adjustments for baseline renal or hepatic impairment • Swallow whole, with or without food
Adverse Effects	• Ocular toxicity • Hyperphosphatemia • Nail toxicity • Stomatitis • Palmar-plantar
Clinical Pearls	• Ophthalmology exams at baseline, q2 months x6 months, then q3 months thereafter • Potential for significant drug-drug interactions: substrate of BCRP, CYP2C9, CYP3A4, P-gp

Lytgobi (futibatinib) [prescribing information]. Princeton, NJ: Taiho Oncology, Inc.; September 2022.

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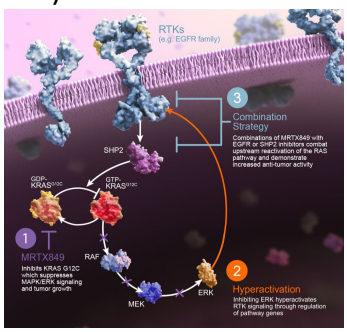
Adagrasib (Krazati™)

- **Approval date**: 12/12/22
- **Indication**: *KRAS* G12C-mutated locally advanced or metastatic NSCLC



Krazati (adagrasib) [prescribing information]. San Diego, CA: Mirati Therapeutics, Inc.; December 2022.
Available at: https://www.mirati.com/science/programs/kras-inhibitors/kras-g12c-inhibitor/

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Adagrasib (Krazati™) – KRYSTAL-1

- Methods: registrational phase 2 cohort trial
- Patients: *KRAS*^{G12C}-mutated NSCLC previously treated with platinum-based chemotherapy and anti-PD(L)1 therapy (N=112)
- Efficacy:
  - Primary outcome: Objective response rate (ORR)

Objective Response	Median duration of response	Median PFS	Median OS
42.9%	8.5 months	6.5 months	12.6 months

  - Among patients with stable CNS metastases, intracranial ORR 33.3%
- Safety:
  - Diarrhea (70.7%), nausea (69.8%), fatigue (59.5%), anemia (36.2%), dyspnea (35.3%), SCr elevation (34.5%), reduced appetite (31.9%)

Janne PA, et al. NEJM. 2022.

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Adagrasib (Krazati™)

Dosing	• 600 mg by mouth twice daily • No adjustment for baseline renal or hepatic impairment
Administration	• Swallow tablets whole with or without food
Clinical Pearls	• Potential for significant drug-drug interactions: substrate of BCRP, CYP1A2, CYP2B6, CYP2C8, CYP2C9, CYP2D6, CYP3A4 and inhibitor of CYP2D6 and CYP3A4

Krazati (adagrasib) [prescribing information]. San Diego, CA: Mirati Therapeutics, Inc.; December 2022.

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Medical Oncology Approval Summary

Drug	Class	Indication	Notable Adverse Effects
Futibatinib (Lytgobi™)	FGFR inhibitor	Previously treated, unresectable, locally advanced or metastatic intrahepatic CCA with FGFR2 fusions or rearrangements	Ocular toxicity, hyperphosphatemia, nail toxicity, palmar-plantar
Tremelimumab (Imjudo®)	Anti-CTLA4 antibody	Unresectable hepatocellular carcinoma Metastatic NSCLC	Immune-mediated AEs
Mirvetuximab soravtansine-gynx (Elahere™)	FRα-directed antibody-drug conjugate	FRα positive, platinum-resistant epithelial ovarian, fallopian tube, or primary peritoneal cancer, after one to three prior regimens	Ocular toxicity, pneumonitis, peripheral neuropathy
Elacestrant (Orserdu™)	Estrogen receptor antagonist, selective estrogen receptor degrader	postmenopausal women or adult men with ER-positive, HER2-negative, *ESR1*-mutated advanced or metastatic breast cancer with disease progression following >1 line endocrine therapy	Nausea, fatigue, decreased appetite, arthralgia
Adagrasib (Krazati™)	KRAS G12C inhibitor	KRAS G12C-mutated locally advanced or metastatic NSCLC after ≥1 line	QTc prolongation, ILD, hepatotoxicity
Retifanlimab-dlwr (Zynyz™)	Anti-PD-1 antibody	Metastatic or recurrent locally advanced Merkel cell carcinoma	Immune-mediated AEs

Available at: https://www.fda.gov/drugs/resources-information-approved-drugs/oncology-cancer-hematologic-malignancies-approval-notifications

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Which of the following recently FDA-approved drugs is a CYP2D6 and CYP3A4 inhibitor?

Adagrasib	0%
Futibatinib	0%
Elacestrant	0%
Mirvetuximab soravtansine-gynx	0%

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Supportive Care

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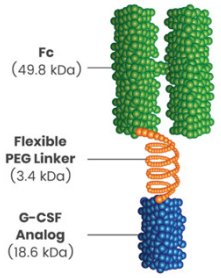
Eflapegrastim (Rolvedon™)

- **Approval date**: 9/9/22
- **Indication**: non-myeloid malignancies receiving myelosuppressive anti-cancer drugs associated with clinically significant incidence of febrile neutropenia



Rolvedon (eflapegrastim) [prescribing information]. Irvine, CA: Spectrum Pharmaceuticals, Inc.; September 2022. Available at: https://www.rolvedon.com/moa/

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Eflapegrastim (Rolvedon™) – ADVANCE

- Methods: phase 3, open-label, randomized trial
- Patients: early-stage breast cancer receiving standard docetaxel + cyclophosphamide for 4 cycles
  - Eflapegrastim 13.2 mg (3.6 mg G-CSF) (N=196)
  - Pegfilgrastim 6 mg (N=210)

Result	Eflapegrastim (N=196)	Pegfilgrastim (N=210)	*P* value
Cycle 1 Severe Neutropenia	16%	24%	0.034
Mean Cycle 1 Days of Severe Neutropenia	0.2 +- 0.503	0.35 +/- 0.683	<0.0001

- Safety: Comparable

Schwartzberg LS, et al. Oncologist. 2020.

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Eflapegrastim (Rolvedon™) – RECOVER

- Methods: phase 3, open-label, randomized trial
- Patients: early-stage breast cancer receiving standard docetaxel + cyclophosphamide for 4 cycles
  - Eflapegrastim 13.2 mg (3.6 mg G-CSF) (N=118)
  - Pegfilgrastim 6 mg (N=119)

Result	Eflapegrastim (N=118)	Pegfilgrastim (N=119)	*P* value
Cycle 1 Severe Neutropenia	20.3%	23.5%	NR
Mean Cycle 1 Days of Severe Neutropenia	0.31	0.39	<0.0001

- Safety: Comparable

Cobb PW, et al. Cancer Med. 2020.

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Eflapegrastim (Rolvedon™)

Dosing and Administration	• 13.2 mg subcutaneously once per cycle • Pre-filled syringes • Do not administer within 14 days before to 24 hours after cytotoxic chemotherapy
Adverse Effects	• Nausea • Bone pain • Headache • Pyrexia • Rare: splenic rupture, ARDS, glomerulonephritis
Clinical Pearls	• NOT indicated for mobilization of peripheral blood progenitor cells for HSCT

Rolvedon (eflapegrastim) [prescribing information]. Irvine, CA: Spectrum Pharmaceuticals, Inc.; September 2022.

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What did the ADVANCE and RECOVER trials demonstrate about the safety and efficacy of eflapegrastim?

- Eflapegrastim has superior safety and efficacy to pegfilgrastim. 0%
- Eflapegrastim has comparable safety and superior efficacy to pegfilgrastim. 0%
- Eflapegrastim has superior safety and inferior efficacy to pegfilgrastim. 0%
- Eflapegrastim has comparable safety and non-inferior efficacy to pegfilgrastim. 0%

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New Indication Approvals

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2022 New Indications

Drug	Approval Date	New Indication
Trastuzumab	May 5, 2022	Unresectable or metastatic HER2+ breast cancer who have received prior anti-HER2-based regimens either in metastatic, neoadjuvant, or adjuvant setting with disease recurrence ≤6 months of completing therapy
Acalabrutinib	May 8, 2022	Tablet approved for all indications (can be coadministered with gastric-acid reducing agents)
Ivosidenib	May 25, 2022	In combination with azacitidine for patients with newly diagnosed IDH1-mutated AML
Tisagenlecleucel	May 27, 2022	Relapsed/refractory follicular lymphoma
Dabrafenib + Trametinib	June 23, 2022	Patients ≥6 years with unresectable or metastatic solid tumors with *BRAF* V600E mutation who have progressed following prior treatment and have no satisfactory alternative treatment options
	March 19, 2023	Pediatric patients ≥1 year with *BRAF* V600E low-grade glioma ALSO approved liquid formulations

Available at: https://www.fda.gov/drugs/resources-information-approved-drugs/oncology-cancer-hematologic-malignancies-approval-notifications

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2022 New Indications

Drug	Approval Date	New Indication
Lisocabtagene maraleucel	June 24, 2022	Large B-cell lymphoma, high-grade B-cell lymphoma, primary mediastinal large B-cell lymphoma, follicular lymphoma grade 3B who have: • Refractory disease to 1st line therapy or relapse <12 mo OR • Refractory disease or relapse after 1st line therapy and ineligible for HSCT
Crizotinib	July 14, 2022	Patients ≥1 year of age with unresectable, recurrent, or refractory inflammatory anaplastic lymphoma kinase (ALK)-positive myofibroblastic tumors (IMT)
Darolutamide	August 5, 2022	Metastatic hormone-sensitive prostate cancer
Trastuzumab deruxtecan	August 6, 2022	Unresectable or metastatic HER2-low breast cancer who have received prior chemotherapy in metastatic setting or developed recurrence ≤6 months of completing adjuvant chemo
	August 12, 2022	Unresectable or metastatic NSCLC whose tumors have activating HER2 mutations and have received prior therapy

Available at: https://www.fda.gov/drugs/resources-information-approved-drugs/oncology-cancer-hematologic-malignancies-approval-notifications

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2022-2023 New Indications

Drug	Approval Date	New Indication
Ibrutinib	August 24, 2022	Pediatric patients ≥1 year for cGVHD after failure of ≥1 line(s) of therapy
Pemigatinib	August 26, 2022	Relapsed/refractory myeloid/lymphoid neoplasms with FGFR1
Selpercatinib	September 21, 2022	Locally advanced or metastatic solid tumors with rearranged during transfection (RET) gene fusion that have progressed on/following prior therapy and have no satisfactory alternative
Cobimetinib	November 1, 2022	Histiocytic neoplasms (Erdheim-Chesster disease, Rosai-Dorfman disease, Langerhans cell histiocytosis)
Brentuximab vedotin	November 10, 2022	Pediatric patients ≥2 years old with previously untreated high-risk classical Hodgkin lymphoma, in combination with doxorubicin, vincristine, etoposide, prednisone, and cyclophosphamide
Asparaginase erwinia chrysanthemia	November 18, 2022	Monday/Wednesday/Friday intramuscular dosing schedule

Available at: https://www.fda.gov/drugs/resources-information-approved-drugs/oncology-cancer-hematologic-malignancies-approval-notifications

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2023 New Indications

Drug	Approval Date	New Indication
Tucatinib	January 19, 2023	In combination with trastuzumab for previously-treated RAS wild-type, HER2-positive metastatic colorectal cancer
Zanubrutinib	January 19, 2023	Chronic lymphocytic leukemia or small lymphocytic leukemia
Sacituzumab	February 3, 2023	Unresectable locally advanced or metastatic HR+/HER2- breast cancer who have received 2 additional systemic therapies in the metastatic setting
Abemaciclib	March 3, 2023	In combination with endocrine therapy for adjuvant treatment of HR+/HER2-, node-positive, early breast cancer at high risk of recurrence
Gallium Ga 68 gozetotide	March 16, 2023	Metastatic prostate cancer for whom Lu177 PSMA-directed therapy is indicated

Available at: https://www.fda.gov/drugs/resources-information-approved-drugs/oncology-cancer-hematologic-malignancies-approval-notifications

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New Immunotherapy Indications

Immunotherapy	Combination Drugs	Approval Date	New Indication
Nivolumab + ipilimumab		May 27, 2022	First-line treatment for patients with unresectable advanced or metastatic esophageal squamous cell carcinoma (regardless of PD-L1 status)
Nivolumab	Fluoropyrimidine and platinum-containing chemotherapy		
Durvalumab	Gemcitabine + cisplatin	September 5, 2022	Locally advanced or metastatic biliary tract cancer
	Tremelimumab + platinum-based chemotherapy	November 11, 2022	Stage IV NSCLC
Cemiplimab	Platinum-based chemotherapy	November 8, 2022	First-line treatment of adult patients with advanced NSCLC with no EGFR, ALK, or ROS1 aberrations.

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New Immunotherapy Indications

Immunotherapy	Combination Drugs	Approval Date	New Indication
Atezolizumab	--	December 9, 2022	Adult and pediatric patients ≥2 years old with unresectable or metastatic alveolar soft part sarcoma
Pembrolizumab	--	January 27, 2023	Adjuvant treatment following surgical resection and platinum-based chemotherapy for patients with Stage Ib, II, or IIIA NSCLC
	Enfortumab vedotin-ejfv	April 3, 2023	Locally advanced or metastatic urothelial carcinoma not eligible for cisplatin-containing chemotherapy
Dostarlimab	--	February 10, 2023	Recurrent or advanced mismatch repair-deficient endometrial cancer

Available at: https://www.fda.gov/drugs/resources-information-approved-drugs/oncology-cancer-hematologic-malignancies-approval-notifications

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Which of the following combinations was FDA-approved for a tumor agnostic indication May 2022-April 2023?

Pembrolizumab + enfortumab vedotin-ejfv 0%

Ipilimumab + nivolumab 0%

Dabrafenib + trametinib 0%

Cemiplimab + platinum-based chemotherapy 0%

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