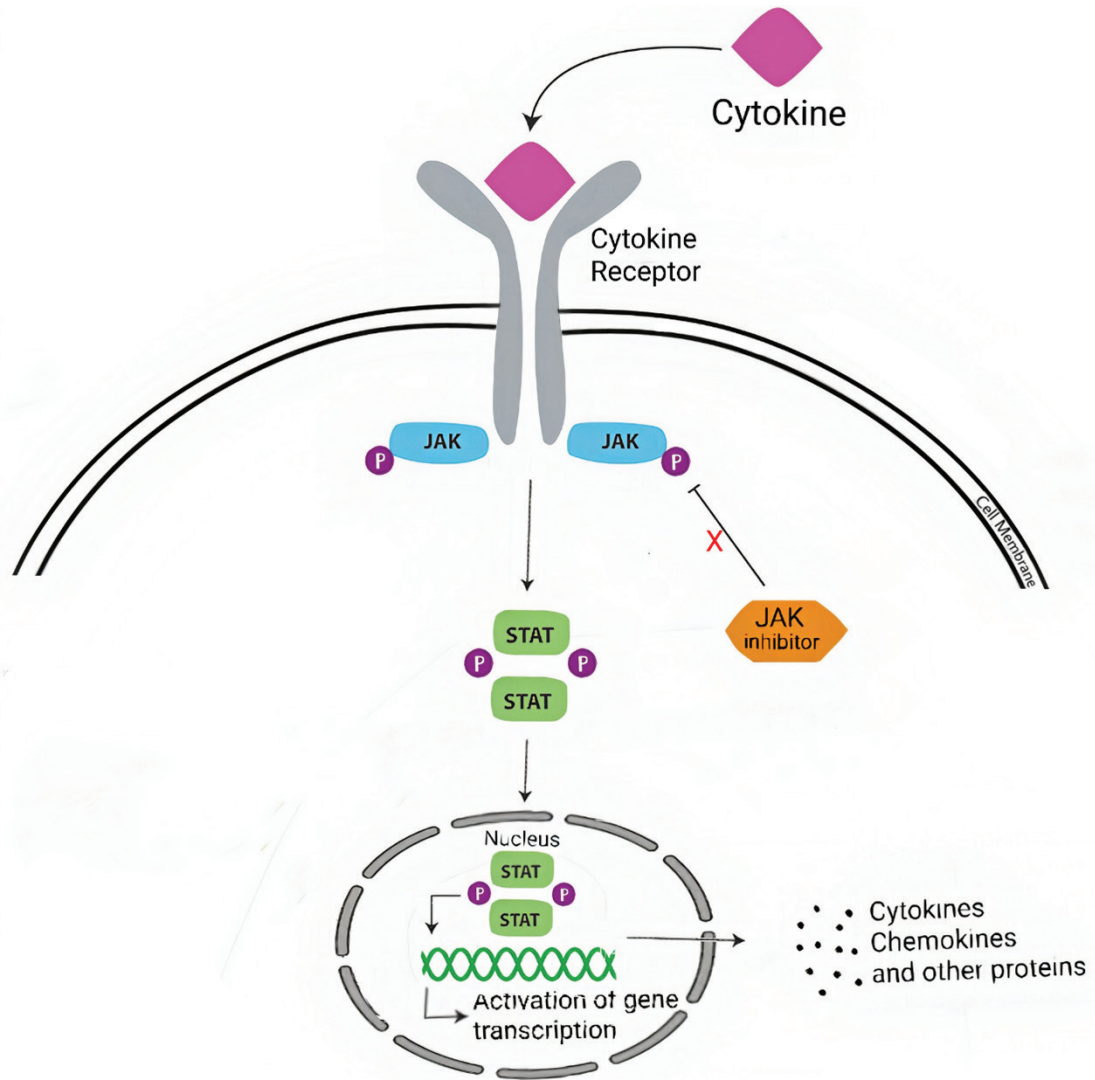


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## JAK inhibitors in dermatology

By Jay Agarwal, DO



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Generic name	Brand name	Route	Primary MOA	FDA-approved indications	Side effects and adverse events	Other
<b>Ruxolitinib</b>	Opzelura	Topical	JAK1/JAK2 inhibitor	<i>Dermatologic:</i> ⇒Mild-to-moderate AD ⇒Non-segmental vitiligo	<b>Common:</b> URI, UTI, urticaria, diarrhea, folliculitis, application site acne, application site pruritis, HA, pyrexia  <b>Less common:</b> Anemia, neutropenia, thrombocytopenia, lipid elevations, NMSC	<b>Black box warnings</b> Increased risk of: 1. Serious infections (including TB and herpes zoster) 2. Mortality 3. Malignancies (including lymphoma) 4. MACE 5. Thrombosis  First FDA-approved prescription treatment for vitiligo

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Generic name	Brand name	Route	Primary MOA	FDA-approved indications	Side effects and adverse events	Other
<b>Baricitinib</b>	Olumiant	Oral	JAK1/JAK2 inhibitor	<u>Dermatologic:</u> ⇒ Severe AA  <u>Other:</u> ⇒ RA ⇒ COVID-19	<b>Common:</b> URI, nausea, herpes simplex, herpes zoster, HA, acne, lipid elevations, CPK increase, UTI, liver enzyme elevations, folliculitis, genital Candida infections, anemia, neutropenia, abdominal pain, weight increase  <b>Less common:</b> Hypersensitivity, GI perforation, lymphopenia, NMSC	<b>Black box warnings</b> Increased risk of: 1. Serious infections (including TB) 2. Mortality 3. Malignancies (including lymphoma) 4. MACE 5. Thrombosis  Avoid the use of live vaccines while on treatment
<b>Ruxolitinib</b>	Jakafi	Oral	JAK1/JAK2 inhibitor	<u>Dermatologic:</u> ⇒ GVHD  <u>Other:</u> ⇒ Myelofibrosis ⇒ PV	<b>Common</b> Anemia, neutropenia, thrombocytopenia, infection, edema  <b>Less common</b> Serious infection, NMSC, lipid elevations, MACE, thrombosis, secondary malignancies	Avoid concomitant use with fluconazole doses greater than 200mg
<b>Tofacitinib</b>	Xeljanz	Oral	JAK1/3 inhibitor	<u>Dermatologic:</u> None  <u>Other:</u> ⇒ RA ⇒ PsA ⇒ UC ⇒ AS ⇒ JIA	<b>Common:</b> URI, diarrhea, HA, herpes zoster, lipid elevations, transaminitis  <b>Less common:</b> GI perforation, NMSC, pancytopenia	<b>Black box warnings</b> Increased risk of: 1. Serious infections (including TB) 2. Mortality 3. Malignancies (including lymphoma) 4. MACE 5. Thrombosis  Avoid the use of live vaccines while on treatment
<b>Upadacitinib</b>	Rinvoq	Oral	JAK1 inhibitor	<u>Dermatologic:</u> ⇒ Moderate-to-severe AD  <u>Other:</u> ⇒ RA ⇒ PsA ⇒ UC ⇒ AS	<b>Common:</b> URI, acne, herpes simplex, herpes zoster, influenza, HA, CPK increase, cough, folliculitis, abdominal pain, weight gain, neutropenia, myalgia, pyrexia  <b>Less common:</b> Hypersensitivity, GI perforations, neutropenia, anemia, lymphopenia, increased LDL and HDL	<b>Black box warnings</b> Increased risk of: 1. Serious infections (including TB) 2. Mortality 3. Malignancies (including lymphoma) 4. MACE 5. Thrombosis  Avoid the use of live vaccines while on treatment  Females of reproductive potential should be advised to use effective contraception during treatment and for 4 weeks following completion of therapy

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Generic name	Brand name	Route	Primary MOA	FDA-approved indications	Side effects and adverse events	Other
<b>Abrocitinib</b>	Cibinqo	Oral	JAK1 inhibitor	<u>Dermatologic:</u> ⇒ Moderate-to-severe AD -	<b>Common:</b> Nasopharyngitis, nausea, HA, CPK increase, UTI, acne, vomiting, oropharyngeal pain, influenza, gastroenteritis, impetigo, HTN, contact dermatitis, herpes simplex, herpes zoster, thrombocytopenia  <b>Less common:</b> Lymphopenia, lipid elevations, retinal detachment	<b>Black box warnings</b> Increased risk of: 1. Serious infections (including TB) 2. Mortality 3. Malignancies (including lymphoma) 4. MACE 5. Thrombosis  Avoid the use of live vaccines prior to, during, and immediately after treatment Contraindications: antiplatelet therapies except for low-dose aspirin (≤81 mg daily), during the first 3 months of treatment
<b>Deucravacitinib</b>	Sotyktu	Oral	TYK2 inhibitor	<u>Dermatologic:</u> ⇒ Moderate-to-severe plaque psoriasis	<b>Common:</b> URI, CPK increase, herpes simplex, mouth ulcers, folliculitis, acne  <b>Less common:</b> Hypersensitivity, herpes zoster, serious infections (including TB), malignancy (including lymphoma), rhabdomyolysis, hypertriglyceridemia, transaminitis	No black box warning  Avoid the use of live vaccines while on treatment

### Abbreviations

AA = Alopecia areata

AD = Atopic dermatitis

AS = Ankylosing spondylitis

GVHD = Graft-versus-host disease

IBD = Inflammatory bowel disease

JIA = Juvenile idiopathic arthritis

MACE = Major adverse cardiac events (defined as cardiovascular death, myocardial infarction, and stroke)

PsA = Psoriatic arthritis

PV = Polycythemia vera

RA = Rheumatoid arthritis

UC = Ulcerative colitis

### Sources

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