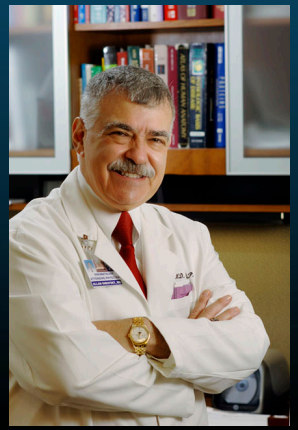
CMEO Snack

# Mechanistic Rationales for Novel and Emerging Treatments for Psoriatic Arthritis: Plugging the Data into the Equation

*Supported by an educational grant from Bristol-Myers Squibb Company*



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# Today's Activity Is Eligible for ABIM MOC Credit and as a CME for MIPS Improvement Activity

Complete your post-test and evaluation at the conclusion of the activity

ABIM CME MOC ACCREDITED

Be sure to fill in your **ABIM ID number** and **DOB** (MM/DD) on the evaluation so we can submit your credit to ABIM

CME for MIPS IMPROVEMENT ACTIVITY

Over the next 90 days, actively work to incorporate improvements in your clinical practice from this presentation

- Complete the follow-up survey from CME Outfitters in approximately 3 months
- CME Outfitters will send you confirmation of your participation to submit to CMS attesting to your completion of a CME for MIPS Improvement Activity

CME Outfitters

CME Outfitters
CONTINUING MEDICAL EDUCATION

# Learning Objective

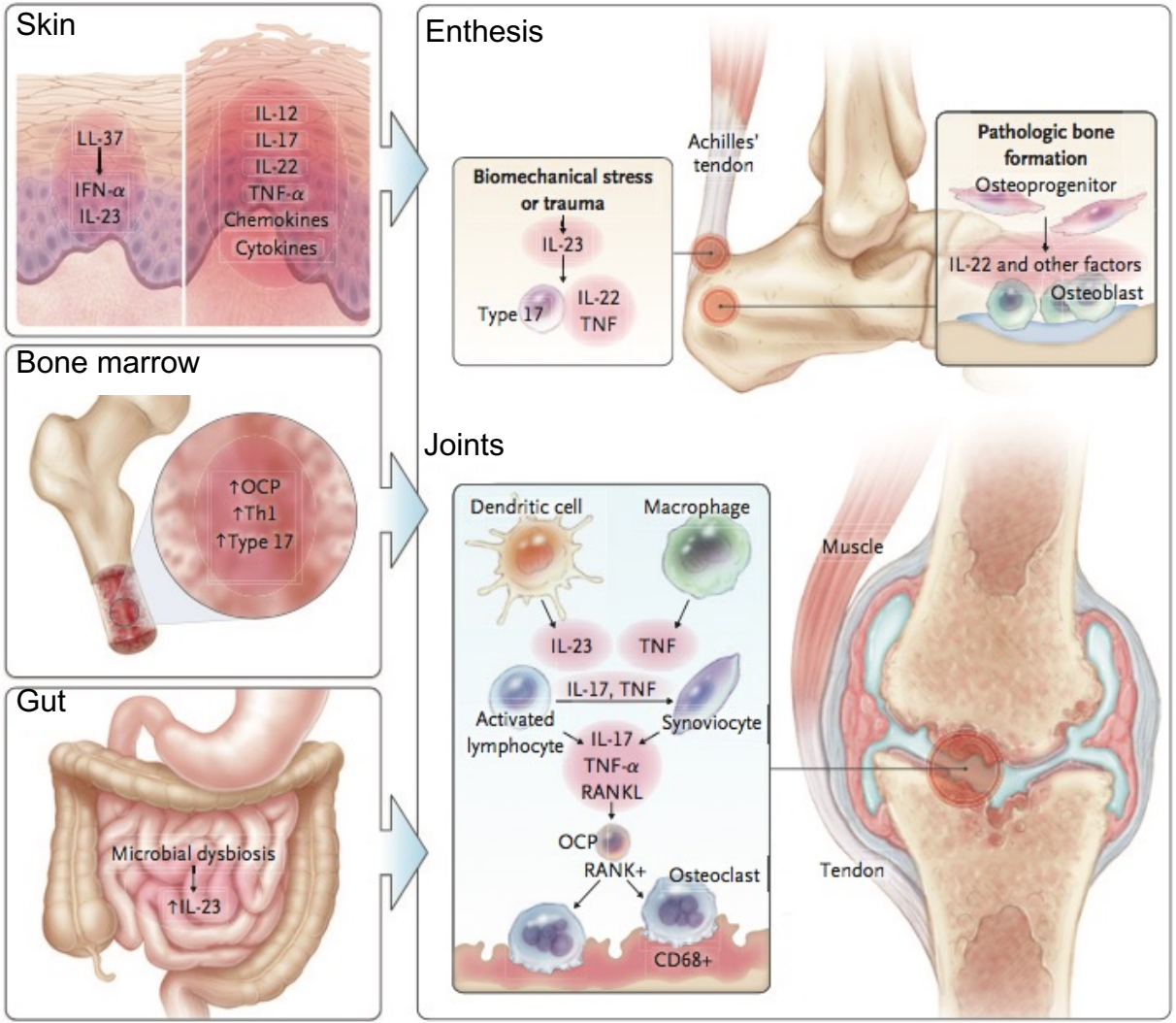
Assess the mechanistic rationale for novel and emerging treatments for psoriatic arthritis, including key clinical efficacy and safety data for targeted treatments.

# Psoriatic Arthritis

- Psoriatic arthritis (PsA) presents in up to 30% of patients with psoriasis (PsO)
- PsA can have serious debilitating effects on peripheral joints, the spine, tendon insertions, and fingers
- Management of PsA has improved, but complete disease control is not yet achievable

Ritchlin C, et al. *N Engl J Med.* 2017;376:957-970.

# Pathogenic Pathways in PsA




Ritchlin C, et al. *N Engl J Med.* 2017;376:957-970.

# PsA Therapies

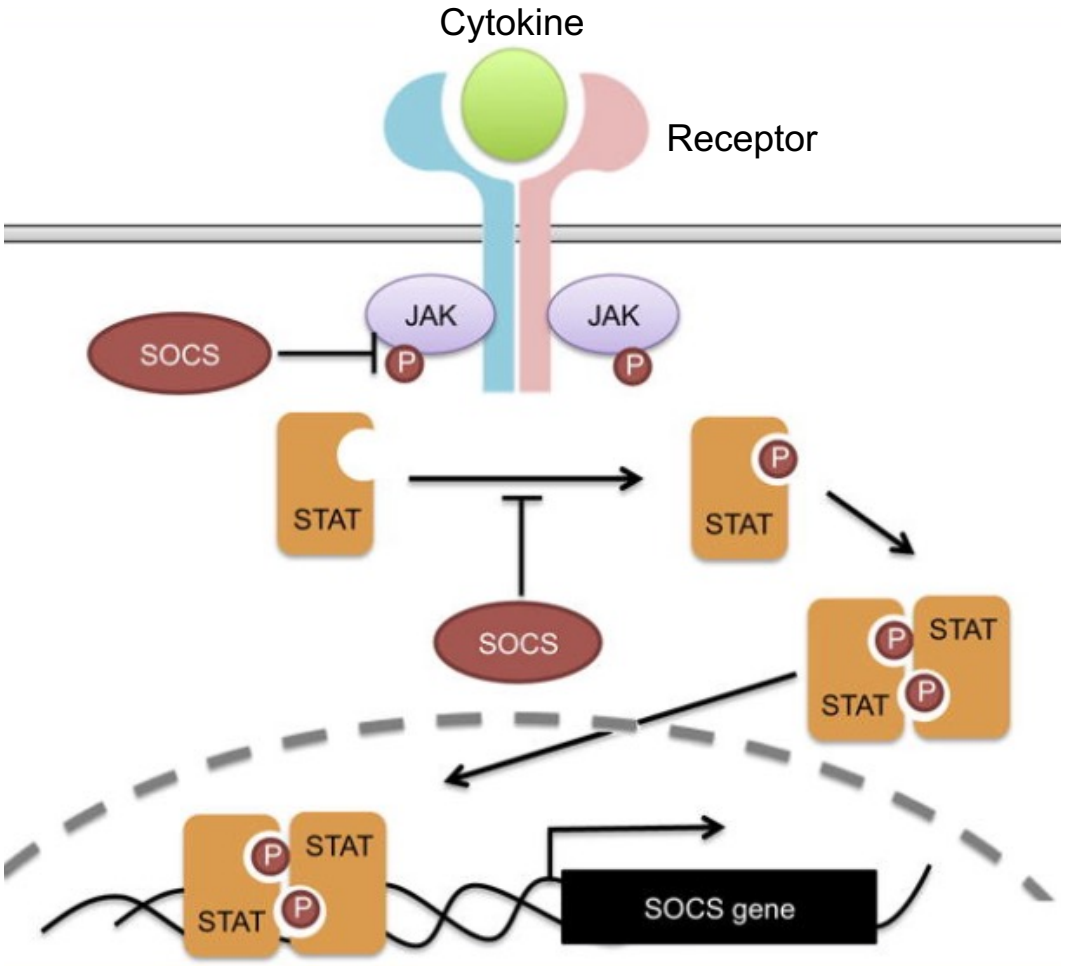
| | |
|---|---|
| **Nonpharmacologic therapies** | Physical therapy, occupational therapy, smoking cessation, weight loss, massage therapy, exercise |
| **Symptomatic treatments** | Nonsteroidal anti-inflammatory drugs, local glucocorticoid injections |
| **Oral small molecule** | Methotrexate,* sulfasalazine,* cyclosporine,* leflunomide,* apremilast |
| **TNFi** | Etanercept, infliximab, adalimumab, golimumab, certolizumab pegol |
| **IL-12/23i** | Ustekinumab |
| **IL-17i** | Secukinumab, ixekizumab |
| **CTLA4-Ig** | Abatacept |
| **JAK/TyK2 inhibitor** | Tofacitinib, upadacitinib,* deucravacitinib* |
| **IL-23i** | Guselkumab, risankizumab,* tildrakizumab* |

*Not approved by the U.S. Food and Drug Administration (FDA) for PsA

IL = interleukin; JAK = Janus kinase; TNFi = tumor necrosis factor inhibitor; TyK2 = tyrosine kinase 2

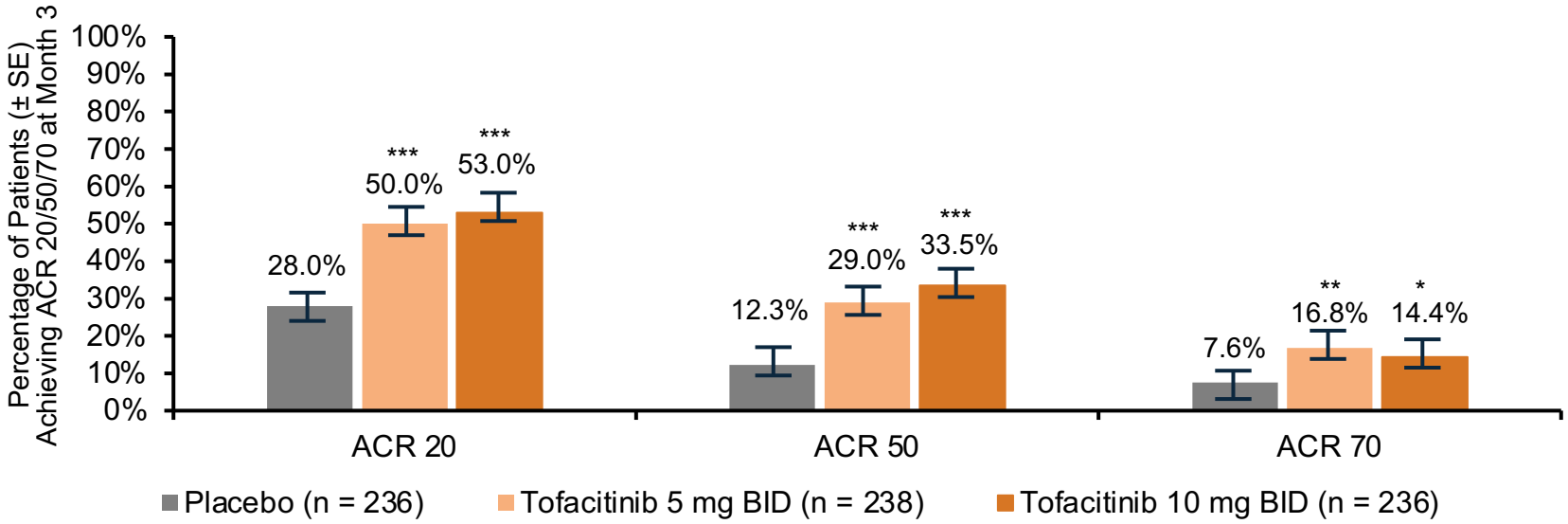
Singh JA, et al. *Arthritis Care Res (Hoboken)*. 2019;71(1):2-29.

# JAK/STAT Pathway in PsA




Yan Z, et al. *Clin Immunol*. 2018;189:4-13.

# Tofacitinib: ACR 20/50/70 Response Rates at Month 3 in Pooled Data from OPAL Broaden and OPAL Beyond




*$p \leq .05$; **$p < .01$; ***$p < .0001$ vs. placebo
SE = standard error
Nash P, et al. *Rheumatol Ther*. 2018;5(2):567-582.

# Tofacitinib Adverse Events

## OPAL Broaden[1]

| | Placebo N = 105 | Tofa 5 mg N = 107 | Tofa 10 mg N = 104 | ADA N = 106 |
|---|---|---|---|---|
| AE | 37 (35%) | 42 (39%) | 47 (45%) | 49 (46%) |
| Serious AE | 1 (1%) | 3 (3%) | 1 (1%) | 1 (1%) |
| Discontinuation due to AE | 1 (1%) | 3 (3%) | 0 | 2 (2%) |
| Serious infection | 0 | 0 | 0 | 0 |
| Herpes zoster infection | 0 | 1 (1%) | 0 | |
| Opportunistic infection | 0 | 1 (1%) | 0 | |
| CVD event | 0 | 0 | 0 | |
| Nonmelanoma skin cancer | 0 | 0 | 1 (1%) | 0 |
| Other cancer | 0 | 2 (2%) | 0 | 0 |

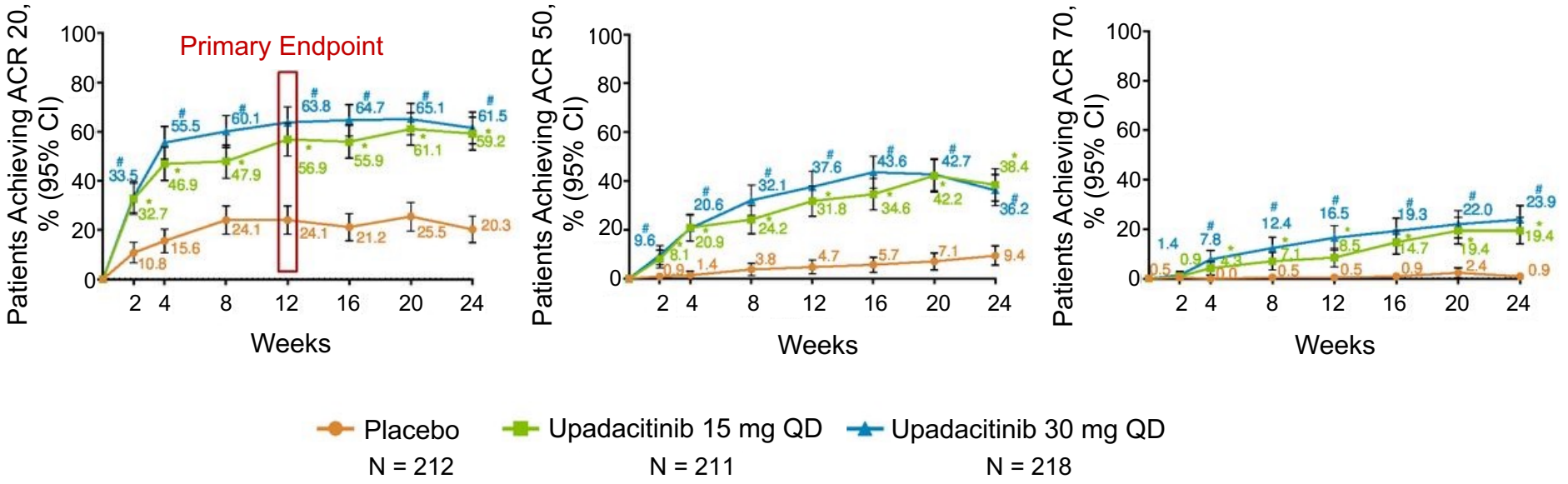
## OPAL Beyond[2]

| | Placebo N = 131 | Tofa 5 mg N = 131 | Tofa 10 mg N = 131 |
|---|---|---|---|
| AE | 58 (44%) | 72 (55%) | 70 (53%) |
| Serious AE | 3 (2%) | 1 (1%) | 3 (2%) |
| Discontinuation due to AE | 5 (4%) | 2 (2%) | 19 (8%) |
| Serious infection | 0 | 0 | 2 (2%) |
| Herpes zoster infection | 0 | 1 (1%) | 1 (1%) |
| Adjudicated opportunistic infection | 0 | 1 (1%) | 0 |
| Adjudicated major adverse CVD event | 0 | 0 | 0 |

ADA = adalimumab; AE = adverse event; CVD = cardiovascular disease; Tofa = tofacitinib

1. Mease PJ, et al. *N Engl J Med*. 2017;377:1537-1550. 2. Glasman D, et al. *N Engl J Med*. 2017;377:1525-1536.

# Upadacitinib for PsA Refractory to Biologics: SELECT-PSA 2




Upadacitinib is not FDA-approved for PsA
*$p \leq .05$ for comparison of upadacitinib 15 mg QD vs. placebo; #$p \leq .05$ for comparison of upadacitinib 30 mg QD vs. placebo
CI = confidence interval; QD = every day
Mease P, et al. *Ann Rheum Dis*. 2020 Dec 3; annrheumdis-2020-218870. doi: 10.1136/annrheumdis-2020-218870. [Epub ahead of print].

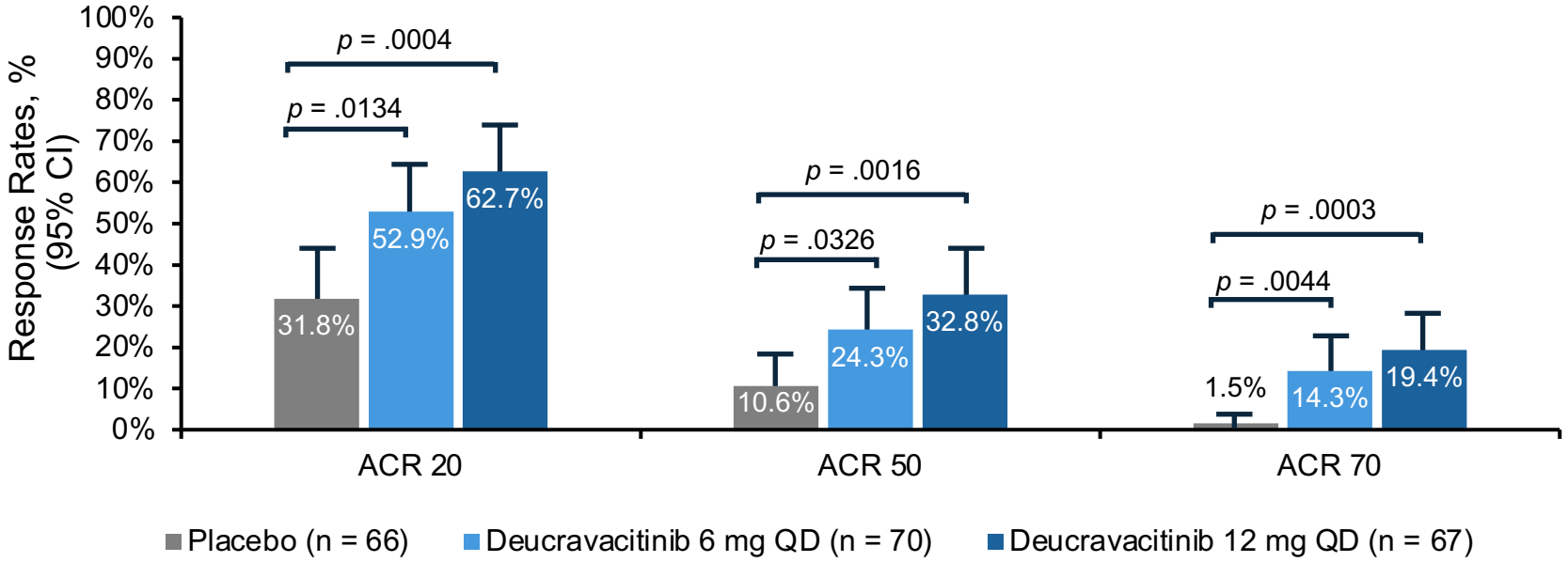
# Upadacitinib Adverse Events

| Adverse Event, N (%) | Placebo N = 212 | Upadacitinib | |
|---|---|---|---|
| | | 15 mg QD N = 211 | 30 mg QD N = 218 |
| AE | 139 (65.6%) | 135 (64.0%) | 170 (78%) |
| Serious AE | 4 (1.9%) | 12 (5.7%) | 18 (8.3%) |
| AE leading to discontinuation | 11 (5.2%) | 15 (7.1%) | 20 (9.2%) |
| Serious infection | 1 (0.5%) | 1 (0.5%) | 6 (2.8%) |
| Herpes zoster | 2 (0.9%) | 3 (1.4%) | 8 (3.7%) |
| Hepatic disorder | 3 (1.4%) | 4 (1.9%) | 18 (8.3%) |
| Anemia | 2 (0.9%) | 4 (1.9%) | 14 (6.4%) |
| Non-melanoma skin cancer | 0 | 1 (0.5%) | 1 (0.5%) |
| Creatinine phosphokinase elevation | 4 (1.9%) | 4 (1.9%) | 12 (5.5%) |

Upadacitinib is not FDA-approved for PsA

Mease P, et al. *Ann Rheum Dis*. 2020 Dec 3; annrheumdis-2020-218870. doi: 10.1136/annrheumdis-2020-218870. [Epub ahead of print].

# Deucravacitinib: ACR 20/50/70 Response Rates at Week 16




Deucravacitinib is not FDA-approved for PsA

Mease P, et al. *Arthritis Rheumatol* 2020;72(suppl 10):1115-1125. https://acrabstracts.org/abstract/efficacy-and-safety-of-deucravacitinib-bms-986165-an-oral-selective-tyrosine-kinase-2-inhibitor-in-patients-with-active-psoriatic-arthritis-results-from-a-phase-2-randomized-double-blind-plac/.

# Deucravacitinib AEs Occurring in ≥ 5% of Patients

| Adverse Event, N (%) | Placebo N = 66 | Deucravacitinib | |
|---|---|---|---|
| | | 6 mg QD N = 70 | 6 mg QD N = 67 |
| Total | 28 (42.4%) | 46 (65.7%) | 44 (65.7%) |
| Nasopharyngitis | 5 (7.6%) | 4 (5.7%) | 12 (17.9%) |
| Sinusitis | 0 | 0 | 5 (7.5%) |
| Headache | 3 (4.5%) | 5 (7.1%) | 1 (1.5%) |
| Rash | 0 | 3 (4.3%) | 4 (6.0%) |
| Upper respiratory tract infection | 0 | 4 (5.7%) | 1 (1.5%) |
| Bronchitis | 1 (1.5%) | 4 (5.7%) | 0 |
| Diarrhea | 0 | 4 (5.7%) | 0 |

Deucravacitinib is not FDA-approved for PsA

Mease P, et al. *Arthritis Rheumatol* 2020;72(suppl 10):1115-1125. https://acrabstracts.org/abstract/efficacy-and-safety-of-deucravacitinib-bms-986165-an-oral-selective-tyrosine-kinase-2-inhibitor-in-patients-with-active-psoriatic-arthritis-results-from-a-phase-2-randomized-double-blind-plac/.

# SMART Goals

## Specific, Measurable, Attainable, Relevant, Timely

- Evaluate the mechanistic rationale for novel and emerging treatments for PsA
- Assess safety and efficacy data for current and emerging JAK inhibitors to determine their role in the management of PsA

CMEO Snack

# Pathogenesis of Psoriatic Arthritis: A Broader Understanding to Inform Next Steps

# Joining Forces in the Coordination of Care of Patients with Psoriatic Arthritis

www.CMEOutfitters.com/PsA-hub/

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www.cmeoutfitters.com/TST44782

Be sure to fill in your **ABIM ID number** and **DOB** (MM/DD) on the evaluation so we can submit your credit to ABIM

Participants can print their certificate or statement of credit immediately.

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