

Dupilumab Therapeutic Cheat Sheet

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TRADE NAME

- › Dupixent

MECHANISM OF ACTION

- › Dupilumab is a recombinant, fully human IgGk monoclonal antibody which antagonizes the α -subunit of IL-4 receptors (IL-4R α , both types 1 & 2).¹ Because the type 2 IL-4R α must dimerize with an IL-13 receptor subunit for mutual activation, dupilumab inhibits downstream signaling of both IL-4 and IL-13, thereby improving AD symptoms²

FDA APPROVED FOR

- › Moderate-to-severe AD in adults and adolescents 6 years or older, refractory to topical therapy or when other treatments are contraindicated
- › Add-on maintenance therapy for moderate-to-severe asthma in adults and adolescents 12 years or older with eosinophilic or oral corticosteroid-dependent asthma
- › Add-on maintenance therapy for chronic rhinosinusitis with nasal polyps in adults 18 years or older with poorly controlled disease

OFF-LABEL USES

- › Chronic pruritus³
- › Prurigo nodularis⁴
- › Idiopathic chronic eczematous eruption of aging⁵
- › Allergic contact dermatitis⁶
- › Chronic hand eczema⁷ and dyshidrotic eczema⁸
- › Chronic urticaria⁹
- › Eosinophilic annular erythema¹⁰
- › Papuloerythroderma of Ofuji¹¹
- › Alopecia areata (AA)¹²
- › Bullous pemphigoid¹³

DOSING

- › Adults 18 years or older: 600mg, followed by 300mg every 2 weeks
- › Pediatric patients 6 – 17 years old
 - › 60+ kg: Loading dose of 600mg, followed by 300mg every 2 weeks
 - › 30-60kg: Loading dose of 400mg, followed by 200mg every 2 weeks
 - › 15-30kg: Loading dose of 600mg, followed by 300mg every 4 weeks

SIDE EFFECTS

- › Injection site reactions (10%)¹
- › Conjunctivitis (10%), eye pruritus (1%), keratitis (<1%), blepharitis (<1%), dry eyes (<1%)¹
- › Hypersensitivity reactions including urticaria, rash, erythema nodosum, anaphylaxis, and serum sickness (<1%)¹
- › Oropharyngeal pain¹
- › Eosinophilia¹
- › Multiple reports of development of AA^{14,15}
- › Multiple reports of cutaneous T-cell lymphoma both 1) worsening in patients with known pre-existing disease, or 2) newly observed in patients receiving treatment for AD¹⁶
- › Single report of worsening of pre-existing psoriasis¹⁷
- › Although manufacturer label cites risk of herpes simplex virus infection (oral or other, 6%), a meta-analysis conducted including 8 randomized controlled trials consisting of 2,706 patients showed evidence of no significant association between dupilumab use and overall herpesvirus infections^{1,18}

WARNINGS

- › Avoid administration of live vaccines while on dupilumab
- › Treat patients with helminthic infections prior to initiating therapy

CONTRAINDICATIONS

- › Patients with known hypersensitivity to the drug or any of its components

PREGNANCY

- › Has not directly been studied in pregnant humans, but available data suggests no increased risk of miscarriages, adverse maternal or fetal outcomes, or major birth defects to date¹
- › Although human IgG antibodies may cross the placenta and be transmitted to the fetus, an animal study utilizing a homologous antibody against the IL-4 receptor α -subunit at doses up to 10-times the maximum recommended human dose administered from organogenesis through birth showed no association with adverse developmental effects¹
- › No data on the presence of dupilumab in human milk, effects on milk production, or effects on infants who are breastfed, but maternal IgG is known to be present in human milk¹

MONITORING

- › No recommended monitoring guidelines