

# Adimab

Adalimumab

## Presentation

**Adimab:** Each pre-filled syringe contains Adalimumab INN 40 mg in 0.8 ml solution for injection.

## Description

Adalimumab is a recombinant human IgG1 monoclonal antibody specific for human tumor necrosis factor (TNF). Adalimumab binds specifically to TNF-alpha and blocks its interaction with the p55 and p75 cell surface TNF receptors. Adalimumab also lyses surface TNF expressing cells in vitro in the presence of complement. TNF is a naturally occurring cytokine that is involved in normal inflammatory and immune responses. Elevated levels of TNF are found in the synovial fluid of patients with Rheumatoid Arthritis, Juvenile Idiopathic Arthritis, Psoriatic Arthritis, and Ankylosing Spondylitis and play an important role in both the pathologic inflammation and the joint destruction that are hallmarks of these diseases. Increased levels of TNF are also found in psoriasis plaques. In Plaque Psoriasis, treatment with Adalimumab may reduce the epidermal thickness and infiltration of inflammatory cells.

## Indications and Uses

Adalimumab is a tumor necrosis factor (TNF) blocker indicated for treatment of:

**Rheumatoid Arthritis (RA):** Reducing signs and symptoms, inducing major clinical response, inhibiting the progression of structural damage, and improving physical function in adult patients with moderately to severely active RA

**Juvenile Idiopathic Arthritis (JIA):** Reducing signs and symptoms of moderately to severely active polyarticular JIA in patients 2 years of age and older

**Psoriatic Arthritis (PsA):** Reducing signs and symptoms, inhibiting the progression of structural damage, and improving physical function in adult patients with active PsA

**Ankylosing Spondylitis (AS):** Reducing signs and symptoms in adult patients with active AS

**Adult Crohn's Disease (CD):** Reducing signs and symptoms and inducing and maintaining clinical remission in adult patients with moderately to severely active Crohn's disease who have had an inadequate response to conventional therapy. Reducing signs and symptoms and inducing clinical remission in these patients if they have also lost response to or are intolerant to infliximab

**Pediatric Crohn's Disease:** Reducing signs and symptoms and inducing and maintaining clinical remission in patients 6 years of age and older with moderately to severely active Crohn's disease who have had an inadequate response to corticosteroids or immunomodulators such as azathioprine, 6-mercaptopurine, or methotrexate

**Ulcerative Colitis (UC):** Inducing and sustaining clinical remission in adult patients with moderately to severely active ulcerative colitis who have had an inadequate response to immunosuppressants such as corticosteroids, azathioprine or 6-mercaptopurine (6-MP). The effectiveness of Adalimumab has not been established in patients who have lost response to or were intolerant to TNF blockers

**Plaque Psoriasis (Ps):** The treatment of adult patients with moderate to severe chronic plaque psoriasis who are candidates for systemic therapy or phototherapy and when other systemic therapies are medically less appropriate

**Hidradenitis Suppurative (HS):** The treatment of moderate to severe hidradenitis suppurativa

## Dosage and Administration

Administered by subcutaneous injection

### Rheumatoid Arthritis, Psoriatic Arthritis, Ankylosing Spondylitis:

- 40 mg every other week
- Some patients with RA not receiving methotrexate may benefit from increasing the frequency to 40 mg every week.

### Juvenile Idiopathic Arthritis:

- 10 kg (22 lbs) to <15 kg (33 lbs): 10 mg every other week
- 15 kg (33 lbs) to < 30 kg (66 lbs): 20 mg every other week
- ≥ 30 kg (66 lbs): 40 mg every other week

### Adult Crohn's Disease and Ulcerative Colitis:

- Initial dose (Day 1): 160 mg (four 40 mg injections in one day or two 40 mg injections per day for two consecutive days)

Second dose two weeks later (Day 15): 80 mg

- Two weeks later (Day 29): Maintenance dose of 40 mg every other week.

• For patients with Ulcerative Colitis only: Adalimumab should only be continued in patients who have shown evidence of clinical remission by eight weeks (Day 57) of therapy

### Pediatric Crohn's Disease:

- 17 kg (37 lbs) to < 40 kg (88 lbs):

• Initial dose (Day 1): 80 mg (two 40 mg injections in one day)

• Second dose two weeks later (Day 15): 40 mg

• -Two weeks later (Day 29): Maintenance dose of 20 mg every other week.

- ≥ 40 kg (88 lbs):

• Initial dose (Day 1): 160 mg (four 40 mg injections in one day or two 40 mg injections per day for two consecutive days)

• Second dose two weeks later (Day 15): 80 mg (two 40 mg injections in one day)

• -Two weeks later (Day 29): Maintenance dose of 40 mg every other week.

### Plaque Psoriasis:

80 mg initial dose followed by 40 mg every other week starting one week after initial dose.

### **Hidradenitis Suppurativa:**

- Initial dose (Day 1): 160 mg (given as four 40 mg injection on Day 1 or as two 40 mg injections per day on Days 1 and 2)
- Second dose two weeks later (Day 15): 80 mg (two 40 mg injections in one day)
- Third (Day 29) and subsequent doses: 40 mg every week.

### **Contraindications**

None

### **Warning & Precaution**

- Serious infections: Adalimumab should not be started during an active infection. If an infection develops, should be carefully monitored and if infection becomes serious Adalimumab should be stopped.
- Invasive fungal infections: For patients who develop a systemic illness on Adalimumab, empiric antifungal therapy should be considered for those who reside or travel to regions where mycoses are endemic
- Malignancies: Incidence of malignancies was greater in Adalimumab-treated patients than in controls
- Anaphylaxis or serious allergic reactions may occur
- Hepatitis B virus reactivation: HBV carriers should be monitored during and several months after therapy. If reactivation occurs, Adalimumab should be stopped and antiviral therapy should be started
- Demyelinating disease: Exacerbation or new onset, may occur
- Cytopenias, pancytopenia: Patients should be advised to seek immediate medical attention if symptoms develop, and should be considered stopping Adalimumab
- Heart failure: Worsening or new onset, may occur
- Lupus-like syndrome: Adalimumab should be stopped if syndrome develops

### **Side-effects**

The most common adverse reaction with Adalimumab was injection site reactions (erythema and/or itching, hemorrhage, pain or swelling). The most common adverse reactions leading to discontinuation of Adalimumab in rheumatoid arthritis were clinical flare reaction, rash and pneumonia. Other adverse reactions of Adalimumab includes-

**Gastrointestinal disorders:** Diverticulitis, large bowel perforations including perforations associated with diverticulitis and appendiceal perforations associated with appendicitis, pancreatitis.

**General disorders and administration site conditions:** Pyrexia

**Hepato-biliary disorders:** Liver failure, hepatitis

**Immune system disorders:** Sarcoidosis

Neoplasms benign, malignant and unspecified (including cysts and polyps): Merkel Cell Carcinoma (neuroendocrine carcinoma of the skin)

**Nervous system disorders:** Demyelinating disorders (e.g., optic neuritis, Guillain-Barré syndrome), cerebrovascular accident

**Respiratory disorders:** Interstitial lung disease, including pulmonary fibrosis, pulmonary embolism

**Skin reactions:** Stevens Johnson Syndrome, cutaneous vasculitis, erythema multiforme, new or worsening psoriasis (all sub-types including pustular and palmoplantar), alopecia

**Vascular disorders:** Systemic vasculitis, deep vein thrombosis.

### **Pregnancy and Lactation**

#### **Pregnancy Category B**

Adequate and well controlled studies with Adalimumab have not been conducted in pregnant women. Adalimumab is an IgG1 monoclonal antibody and IgG1 is actively transferred across the placenta during the third trimester of pregnancy.

#### **Lactation**

Limited data from published literature indicate that Adalimumab is present in low levels in human milk and is not likely to be absorbed by a breastfed infant. However, no data is available on the absorption of Adalimumab from breast milk in newborn or preterm infants. Caution should be exercised when Adalimumab is administered to a nursing woman.

#### **Pediatric Use**

Safety and efficacy of Adalimumab in pediatric patients for uses other than polyarticular juvenile idiopathic arthritis (JIA) and pediatric Crohn's disease have not been established.

#### **Drug interactions**

**Abatacept:** Increased risk of serious infection

**Anakinra:** Increased risk of serious infection

**Live vaccines:** Adalimumab use should be avoided

#### **Storage**

Adalimumab should be stored in a refrigerator at a temperature of 2°C-8°C (36°F-46°F) and should not be frozen. The pre-filled syringe should be kept in its original packaging to protect it from light. Before administration, the syringe should be allowed to reach room temperature for about 15 to 30 minutes but should not be warmed using external heat sources. Used syringes should be disposed of safely in accordance with medical waste guidelines to prevent injury or contamination.

#### **Packaging**

**Adimab:** Each box contains 1 pre-filled syringe of Adalimumab 40 mg injection and 1 alcohol pad.