

Brand Name: Actemra/RoActemra

Generic: tocilizumab

Type: monoclonal antibody

Year Accepted/Phase:

Rheumatoid Arthritis (RA): 2010

Systemic Juvenile Idiopathic Arthritis (sJIA): 2011

Polyarticular Juvenile Idiopathic Arthritis (pJIA): 2013

Giant Cell Arteritis (GCA): 2017

Cytokine Release Syndrome (CRS): 2017

Mechanism:

Tocilizumab is a monoclonal antibody that targets the interleukin-6 receptor (IL-6R). By blocking IL-6R, tocilizumab reduces inflammation and modifies the immune response, which is beneficial in various inflammatory diseases.

Chemical Structure: N/A

Indication:

Actemra/RoActemra is indicated for the treatment of moderate to severe RA, sJIA, pJIA, GCA, and severe CRS.

Clinical trials:

Rheumatoid Arthritis (RA)

AMBITION Trial

Pubmed: <https://pubmed.ncbi.nlm.nih.gov/19297346/>

Purpose: Compare the efficacy and safety of tocilizumab monotherapy with methotrexate in patients with moderate to severe RA.

Dates: The AMBITION trial results were published in 2008.

Results: Tocilizumab monotherapy was superior to methotrexate in reducing the signs and symptoms of RA.

LITHE Trial

Pubmed: <https://pubmed.ncbi.nlm.nih.gov/23322466/>

Purpose: Evaluate the long-term safety and efficacy of tocilizumab in combination with methotrexate in patients with moderate to severe RA.

Dates: The LITHE trial results were published in 2009.

Results: Tocilizumab significantly inhibited structural joint damage and improved physical function over two years.

Systemic Juvenile Idiopathic Arthritis (sJIA)

TENDER Trial

Pubmed: <https://pubmed.ncbi.nlm.nih.gov/23252525/>

Purpose: Evaluate the efficacy and safety of tocilizumab in children with active sJIA.

Dates: The TENDER trial results were published in 2011.

Results: Tocilizumab significantly improved disease symptoms and reduced the requirement for corticosteroids.

Giant Cell Arteritis (GCA)

GiACTA Trial

Pubmed: <https://pubmed.ncbi.nlm.nih.gov/28745999/>

Purpose: Assess the efficacy of tocilizumab in inducing and maintaining remission in patients with GCA.

Dates: The GiACTA trial results were published in 2017.

Results: Tocilizumab combined with a 26-week prednisone taper was superior to placebo in achieving sustained remission.

Cytokine Release Syndrome (CRS)

Pubmed: <https://pubmed.ncbi.nlm.nih.gov/29622697/>

Various Trials

Purpose: Evaluate the efficacy of tocilizumab in managing severe or life-threatening CRS associated with CAR T-cell therapy.

Dates: Key studies were conducted in the mid-2010s.

Results: Tocilizumab was effective in rapidly reducing CRS symptoms and was subsequently approved for this indication.