BIOLOGICAL ACTIVITY:

**BAY 11–7085** is an inhibitor of NF–κB activation and phosphorylation of IκBα; it stabilizes IκBα with an IC50 of 10 μM. IC50 & Target: IC50: 10 μM (IκBα)[1]

**In Vitro:** BAY 11–7085 inhibits TNFa–induced surface expression of E–selectin, VCAM–1, and ICAM–1 with IC50 values in the range of 5–10 μM. BAY 11–7085 stabilizes IκBα in a dose–dependent manner with an IC50 value of approximately 10 μM. There is a clear correlation between the concentration of drug that stabilized IκBα, the concentration that inhibits nuclear levels of NF–κB, and the concentration that inhibits adhesion molecule expression[1]. BAY 11–7085 has been shown to inhibit cell proliferation and induce apoptosis of a variety of cells. BAY 11–7085 (ECSCs) significantly inhibits the cell proliferation and DNA synthesis of ovarian endometriotic cyst stromal cells and induces apoptosis and the G0/G1 phase cell cycle arrest of these cells. BAY 11–7085 induces apoptosis of ECSCs by suppressing antiapoptotic proteins, and that caspase–3–, –8–, and –9–mediated cascades are involved in this mechanism[2].

**In Vivo:** BAY 11–7085 acts as an anti–inflammatory agent in both the rat carrageenan paw and the rat adjuvant arthritis model. It demonstrates a dose–dependent reduction in swelling in the rat carrageenan paw model[1].

**PROTOCOL (Extracted from published papers and Only for reference)**

**Cell Assay:**[2] ECSCs cells are incubated for 48 h with BAY 11–7085 (0.01–10 μM). Thereafter, 20 μL of WST–1 dye are added to each well, and the cells are further incubated for 4 h. All experiments are performed in the presence of 10% FBS. Cell proliferation is evaluated by measuring absorbance at 540 nm[2].

**Animal Administration:**[1] Rat: 1% suspension of carrageenan in distilled water is administered to rats as 0.1 mL subplantar injection into the footpad of the right hind paw. One hour prior to injection, rats are treated intraperitoneally with vehicle (polyethylglycol 400 diluted 1:5 in 5% bovine serum albumin/water) or a fine suspension of compound 2 (1, 5, or 50 mg/kg) in vehicle. A positive control group is also included in which rats are pretreated with 20 mg/kg ibuprofen. Four hours after carrageenan administration, the volume of the injected paw is measured. Edema volumes are determined[1].

**References:**


Caution: Product has not been fully validated for medical applications. For research use only.

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