Validation data for Bay11-7082

https://www.invivogen.com/bay11-7082

For research use only

Version 22F07-MM

Bay11-7082 is a potent inhibitor of the transcription factor NF-κB (nuclear factor kappa-light-chain-enhancer of activated B cells) and the NLRP3 (NOD-like receptor (NLR) pyrin domain-containing protein 3) inflammasome. NF-κB regulates multiple aspects of innate and adaptive immune functions and serves as a pivotal mediator of inflammatory responses. While the NLRP3 inflammasome is an innate immune sensor that is activated by a two-step process; a first signal ('priming') is provided by microbial molecules such as lipopolysaccharide (LPS), and the second signal is provided by a wide array of stimuli including endogenous molecules or crystalline substances such as monosodium urate (MSU) crystals.
The ability of Bay11-7082 to inhibit the NLRP3 inflammasome was validated using InvivoGen's THP-1/HEK-Blue™ IL-1β assay. This assay uses the secretion of IL-1β by THP1-Null2 cells as an indicator of NLRP3 inflammasome induction. The IL-1β production by these cells is measured using HEK-Blue™ IL-1β cells. Treatment with Bay11-7082 inhibited IL-1β secretion in a dose-dependent manner **(Figure 1)**.

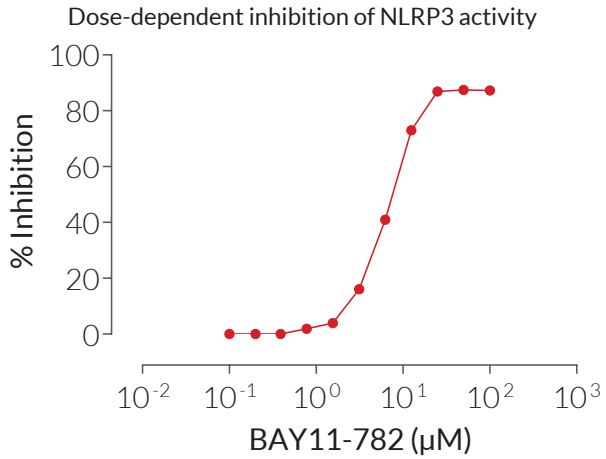

Figure 1: Bay11-7082 inhibits the NLRP3 inflammasome response in a dose-dependent manner.
THP1-Null2 cells were primed with LPS-EK (1 µg/ml) for 3 h and then stimulated with MSU (150 µg/ml) and increasing concentrations of Bay11-7082. After overnight incubation, IL-1β secretion was analyzed by adding 50 µl of supernatant from treated THP1-Null2 cells to HEK-Blue™ IL-1β cells. IL-1β-induced activation of NF-κB was assessed by measuring the levels of SEAP in the supernatant of HEK-Blue™ IL-1β cells using QUANTI-Blue™ Solution, a SEAP detection reagent, and by reading the optical density (OD) at 655 nm. Data are shown as percentage (%) inhibition.

TECHNICAL SUPPORT
InvivoGen USA (Toll-Free): 888-457-5873
InvivoGen USA (International): +1 (858) 457-5873
InvivoGen Europe: +33 (0) 5-62-71-69-39
InvivoGen Asia: +852 3622-3480
E-mail: info@invivogen.com