SB203580 is a pyridinyl imidazole inhibitor widely used to study the role of p38 mitogen-activated protein kinase (MAPK). p38 MAPK is involved in a wide array of signaling pathways, including the Toll-like receptor (TLR) signaling pathway. The ability of SB203580 to inhibit p38 MAPK was validated using InvivoGen’s RAW-Lucia™ ISG cells (Figure 1). This reporter cell line is derived from RAW 264.7 macrophages. RAW-Lucia™ ISG cells stably express an interferon regulatory factor (IRF)-inducible Lucia luciferase reporter construct. They express all TLRs (with the exception of TLR5). Stimulation of this cell line with lipopolysaccharide from *Escherichia coli* 0111:B4 (LPS-EB) activates the TLR4 pathway inducing Lucia luciferase production.

Figure 1: SB203580 is a potent inhibitor of p38 MAP kinase signaling.

RAW-Lucia™ ISG cells were incubated overnight at 37°C in the presence of increasing concentrations of SB203580 together with 100 ng/ml of LPS-EB. The next day, the inhibitory activity of SB203580 was determined by measuring the reduction of Lucia luciferase production in the supernatant using the QUANTI-Luc™ detection reagent. Data are shown as percentage (%) inhibition ± standard error of the mean (SEM).