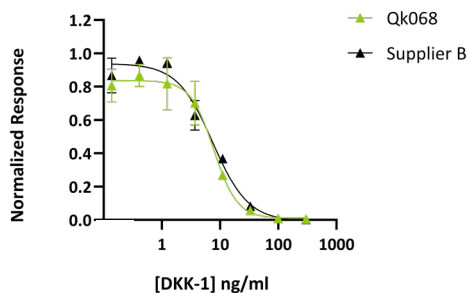


The only commercially available animal-free bioactive DKK-1 for reproducible stem cell culture and related applications

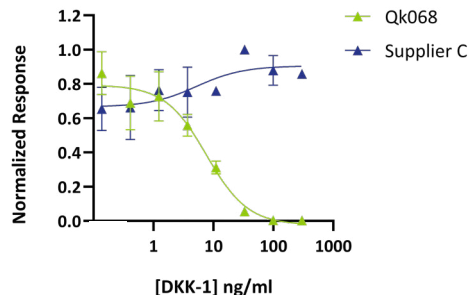
Technote

DKK-1 (Qk068)

a.



b.



Quantitative luciferase reporter assay shows equivalent bioactivity of Qkine AOF DKK-1 and mammalian-expressed DKK-1.

HEK293T cells were treated in triplicate with a serial dilution of DKK-1 and a standard concentration of Wnt-3a for 24 hours. Active DKK-1 inhibits Wnt-3a activation of the Wnt-3a pathway. (a) Equivalent bioactivity of AOF DKK-1 (Qkine, green Qk068) and mammalian-expressed DKK-1 (Supplier B, black, Peprotech 120-30). (b) No biological activity was determined using an alternative supplier bacterially expressed DKK-1 (Supplier C, blue, ProSpec PRO-1566). Please note the supplier does not provide information on the biological activity of this protein.

Dickkopf-related protein 1 (DKK-1) is a potent Wnt pathway antagonist used to control cell fate, self-renewal, and differentiation. Recombinant human DKK-1 is used in stem cell differentiation protocols, particularly in neural and osteogenic pathways, and for mimicking dysregulated Wnt signaling seen in cancers. Qkine has recently developed a fully animal-origin free DKK-1 (Qk068) to support translational and sensitive studies.

Using high-purity AOF proteins improves reproducibility by eliminating contamination or off-target effects from trace animal components and co-purifying related proteins naturally secreted by mammalian protein expression systems.

Qkine DKK-1 (Qk068) bioactivity

- ▶ Qkine animal origin-free DKK-1 (Qk068) activity, EC50 of 7.8 ng/ml (301 pM), was directly comparable with mammalian-expressed DKK-1, EC50 7.5 ng/ml (291 pM).
- ▶ Qkine DKK-1 activity was also compared with a commercially available bacterially expressed DKK-1, which was not biologically active.

The comparative bioactivity data demonstrate that Qkine DKK-1 (Qk068) has equivalent bioactivity to the mammalian-expressed DKK-1 from an alternative major supplier. Qkine thus provides the first reliable source of high-quality animal origin-free DKK-1 for reproducible culture of stem cells, neuronal cells, osteoblasts and other applications.