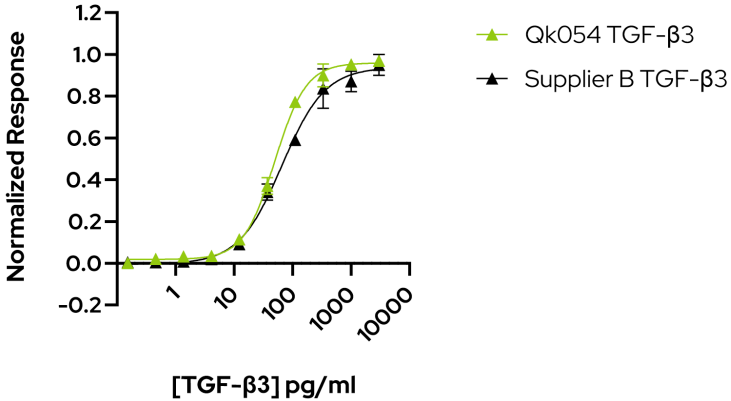
Technote

Highly bioactive, animal-free TGF-β3



Quantitative luciferase reporter assay shows that both TGF-β3 (Qk054, green) and alternative supplier TGF-β3 (Supplier B, black) have high bioactivity with an EC50 of 49.7 pg/ml (2 pM) and 65.6 pg/ml (2.6 pM), respectively. Data for Qk054 lot #104369.

TNQK054-221123-v1.1

Introduction:

Transforming growth factor-beta 3 (TGF-β3) is a member of the TGF family that regulates cell growth and differentiation. In cell culture, TGF-β3 maintains the pluripotency of embryonic and induced pluripotent stem cells. It can also induce the differentiation of cartilage and muscle cells.

Using animal-free growth factors will improve cell cultures' reproducibility and physiological relevance as they have higher lot-to-lot consistency and eliminate contamination from animal-derived ingredients. Qkine manufactures an animal-free, carrier-free, and tag-free TGF-β3 to ensure high and consistent bioactivity. This technote demonstrates a comparable level of bioactivity between Qk054 TGF-β3 and an alternative major supplier of bacterial-expressed TGF-β3 (Supplier B).

Method:

The bioactivity of Qk054 TGF-β3 and Supplier B TGF-β3 is determined using a TGF-β3 responsive firefly luciferase reporter in HEK293T cells. Cells are treated in triplicate with a serial dilution of TGF-β3 for 6 hours. Firefly luciferase activity is measured and normalized to the control Renilla luciferase activity.

Results:

The bioactivity comparison demonstrates that Qkine TGF-β3 has equivalent bioactivity to TGF-β3 from a major alternative supplier in our reporter assay. Qkine TGF-β3 is highly pure, potent, and reliable for reproducible embryonic and induced pluripotent stem cell cultures.

Qkine TGF-β3 and all Qkine recombinant proteins come with a Bioactivity Guarantee, guaranteeing our proteins to be reproducibly bioactive in your cultures. To learn more or to purchase Qkine animal-free recombinant proteins, visit qkine.com.