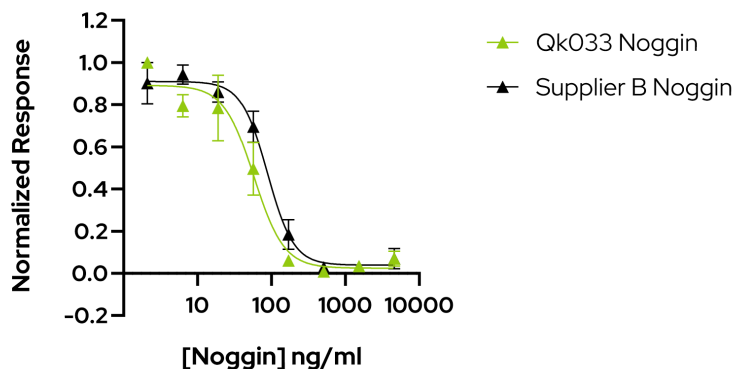


Mouse/rat Noggin is more bioactive than an alternative supplier



Quantitative luciferase reporter assay shows Qkine Noggin (Qk033, green) has a higher bioactivity with an EC50 of 58 ng/ml (1.3 nM) compared to alternative Noggin (Supplier B, black) with an EC50 of 88.5 ng/ml (1.9 nM). Data for Qk033 lot #104284.

TNQK033-151123-v1.1

Introduction:

Noggin is part of the bone morphogenetic protein (BMP) antagonist family that regulates cell differentiation and growth during embryonic development. Noggin is used to culture embryonic and pluripotent stem cells and to derive neural and microglial lineages. It is also used to generate intestinal, pancreatic, lung, and tumor-derived organoids. Species-specific recombinant proteins such as mouse/rat Noggin are essential for the culture of mouse/rat embryonic stem cells, reducing the risk of contamination from other animal-derived ingredients while maintaining high bioactivity. Qkine have developed a carrier-free, tag-free, and non-glycosylated mouse/rat Noggin expressed in *E. coli* to ensure a high and consistent bioactivity, ensuring reproducible and physiologically relevant cell cultures. This technote demonstrates that Qkine mouse/rat Noggin (Qk033) is more bioactive than bacterial-expressed murine Noggin from a major alternative supplier (Supplier B).

Method:

As Noggin is a BMP inhibitor, the bioactivity of Qk033 Noggin and Supplier B Noggin is determined by inhibiting BMP-2 (Qk007) activity in a BMP-2 responsive firefly luciferase reporter assay. HEK293T cells are treated (in triplicate) with a serial dilution of Noggin and a standard concentration of BMP-2 for 6 hours. Firefly luciferase activity is measured and normalized to the control Renilla luciferase activity.

Results:

The bioactivity comparison demonstrates that Qkine Noggin is more bioactive than Noggin from a major alternative supplier in our reporter assay. Qkine Noggin is highly pure, potent, and reliable for reproducible cultures of mouse embryonic stem cells.

Qkine Noggin 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