FGF2-STAB® MEAT

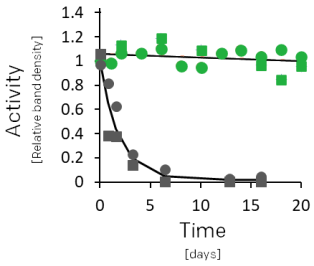
designed for cultured meat media

Enantis

- Improved human fibroblast growth factor 2
- Induces **cell proliferation**
- Maintains cells in **undifferentiated state**
- Essential for **stem cell** and **cultured meat media**
- **Patented molecule** (WO2017089016A1)
- Called FGF2-G3 or FGF2-STAB in literature

50-times longer half-life than FGF2

Measured by activation of ERK in human ESC CCTL14 culture



FGF2-STAB®
$t_{1/2}$ > 20 days
➡ **Engineered protein with improved stability and longevity**

FGF2-wt
$t_{1/2}$ = 10 hours
➡ **FGF2-wt** is **intrinsically unstable** and requires **continuous addition** to the media

Competitive advantage

- **Longer half-life** (50-times)
- Much **lower dosage** needed (up to 20-times)
- Fully **retained biological activity**
- No need for **stabilizing additives**
- **Animal-free** product

Possibility of **reformulation** according to customer's specs and regulations

Open to agreements for **supply / collaborations / licenses**

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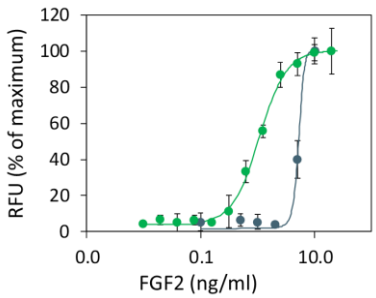
Lower dosage required*

Measured by NIH/3T3 fibroblast cell proliferation



FGF2-wt ED_{50} **5.0 ng/ml**

FGF2-STAB® ED_{50} **1.1 ng/ml**

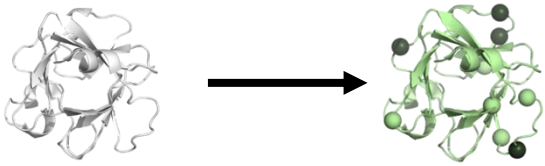
* Up to 20-times lower dosage required if used in B8 media formulation (Kuo et al., 2020)

Temperature stability enhanced by 19°C

Measured by circular dichroism spectroscopy

FGF2 wt

T_m = 54°C

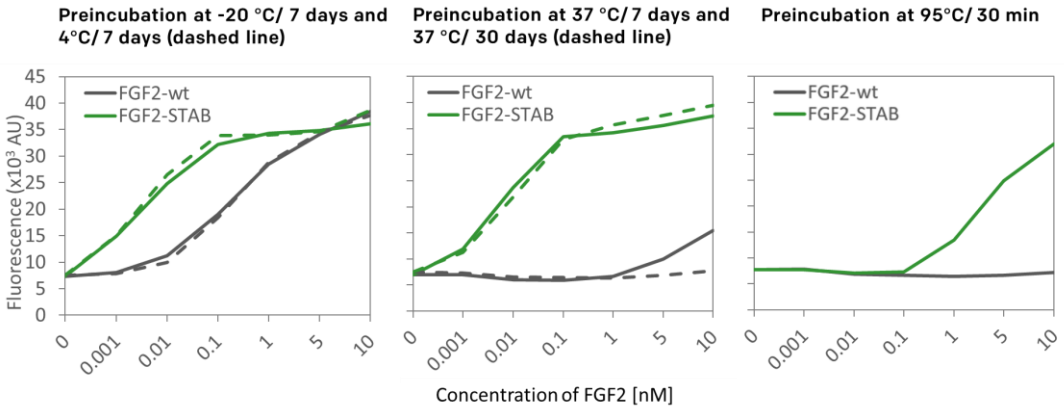


FGF2-STAB®

T_m = 73°C

Enhanced stability in cell proliferation assay

Tested in BAF3 cells expressing FGFR2c receptor



Literature

Dvorak P, Bednar D, Vanacek P, et al. Computer-assisted engineering of hyperstable fibroblast growth factor 2. Biotechnol Bioeng. 2018;115(4):850-862. doi:10.1002/bit.26531

Koledova Z, Sumbal J, Rabata A, et al. Fibroblast Growth Factor 2 Protein Stability Provides Decreased Dependence on Heparin for Induction of FGFR Signaling and Alters ERK Signaling Dynamics. Front Cell Dev Biol. 2019;7:331. Published 2019 Dec 12. doi:10.3389/fcell.2019.00331

Kuo HH, Gao X, DeKeyser JM, et al. Negligible-Cost and Weekend-Free Chemically Defined Human iPSC Culture. *Stem Cell Reports*. 2020;14(2):256-270. doi:10.1016/j.stemcr.2019.12.007

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