Recombinant Human TAFA3/FAM19A3

Catalog Number: 4677-TA

DESCRIPTION

Source	*E. coli*-derived Ala31-Arg133 Accession # Q7Z5A8
N-terminal Sequence Analysis	Ala31
Predicted Molecular Mass	11 kDa

SPECIFICATIONS

SDS-PAGE	10 kDa, reducing conditions
Activity	Measured by its ability to enhance neurite outgrowth of E16-E18 rat embryonic cortical neurons. Recombinant Human TAFA3/FAM19A3, immobilized at 4 µg/mL on a 96-well plate, is able to significantly enhance neurite outgrowth.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE with silver staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 400 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

TAFA3, also called FAM19A3, is a member of the FAM19/TAFA family of small secreted proteins (1). Human TAFA3 has a molecular weight of approximately 15 kDa. The mature protein is 103 amino acids (aa) in length and shares 93% aa sequence identity with the mouse and rat orthologs (1). Alternative exon splicing causes a reading frame shift at aa 89, creating a 169 aa isoform with an altered C-terminal region (1). TAFA3 is specifically expressed in the brain with the highest levels being detected in parietal cortex and basal ganglia (1). TAFA proteins display chemokine-like signatures and appear to be distantly related to CCL3/ MIP-1α as they share a common CC motif (1). TAFA3 has been suggested to be involved in transmitting the photoperiodically-controlled Melatonin signal from the pars tuberalis (2). TAFA3 mRNA levels in the pars tuberalis vary between night and day and correspond to plasma Melatonin levels (2). Additionally, these day/night expression differences are not observed in mice that lack Melatonin type 1 receptors (2). Interestingly, in other brain regions, such as the hippocampus and the ventral posterior nucleus of the thalamus, TAFA3 expression does not appear to be mediated by Melatonin, suggesting expression of this protein is controlled by region-specific mechanisms (2).

References:

1. Tom Tang, Y. *et al.* (2004) Genomics **83**:727.
2. Fischer, C. *et al.* (2012) Gen. Comp. Endocrinol. **177**:98.

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