Recombinant Human TAFA2/FAM19A2

Catalog Number: 4179-TA

DESCRIPTION

Source	*E. coli*-derived Ala31-His131 Accession # AAH28403
N-terminal Sequence Analysis	Ala31
Predicted Molecular Mass	11.3 kDa

SPECIFICATIONS

SDS-PAGE	11 kDa, reducing conditions
Activity	Measured by its ability to enhance neurite outgrowth of E16-E18 rat embryonic cortical neurons. rhTAFA2, immobilized at 6-24 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 under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 300 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

TAFA2 (also FAM19A2) is a secreted, 11 kDa member of the FAM19/TAFA family of chemokine-like proteins (1). It is synthesized as a 131 amino acid (aa) precursor that contains a 30 aa signal sequence and a 101 aa mature chain (SwissProt #: Q8N3H0). Like other members of the FAM19/TAFA family, with the exception of TAFA5, mature TAFA1 contains 10 regularly spaced cysteine residues that follow the pattern $CX_7CCX_{13}CXCX_{14}CX_{11}CX_4CX_5CX_{10}C$, where C represents a conserved cysteine residue and X represents any noncysteine amino acid (1). Human TAFA2 is 97% aa identical to mouse TAFA2 (1). TAFA2 expression can be detected in the central nervous system (CNS), colon, heart, lung, spleen, kidney, and thymus, but its expression in the CNS is 50- to 1000-fold higher than in other tissues (1). Within the CNS, TAFA2 expression is highest in the occipital and frontal cortex (3- to 10-fold more abundantly expressed than in other cortical regions) and medulla (1). The biological functions of TAFA family members remain to be determined, but there are a few tentative hypotheses. First, TAFAs may modulate immune responses in the CNS by functioning as brain-specific chemokines, and may act with other chemokines to optimize the recruitment and activity of immune cells in the CNS (1). Second, TAFAs may represent a novel class of neurokines that act as regulators of immune nervous cells (1 - 2). Finally, TAFAs may control axonal sprouting following brain injury (1).

References:

1. Tang, Y.T. *et al.* (2004) Genomics **83**:727.
2. Benveniste, E. (1998) Cytokine Growth Factor Rev. **9**:259.

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