

DESCRIPTION

Source *E. coli*-derived mouse Chemerin protein
Thr17-Ser156
Accession # NP_082128

N-terminal Sequence Analysis Thr17

Predicted Molecular Mass 16 kDa

SPECIFICATIONS

SDS-PAGE 18 kDa, reducing conditions

Activity Measured by its ability to chemoattract BaF3 mouse pro-B cells transfected with human ChemR23. The ED₅₀ for this effect is 6-30 ng/mL.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >97%, 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 100 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

Mouse Chemerin, also known as Tazarotene-induced Gene-2 (TIG2), is a new, but distant member of the cystatin superfamily (1 - 3). Members of this superfamily contain at least two intrachain disulfide bonds and an α-helical structure over a distance of about 100 amino acids (aa) (2, 3). Chemerin is synthesized as a 162 aa precursor that contains a hydrophobic N-terminal sequence, an intervening 140 aa cystatin-fold containing domain, and a six aa C-terminal prosegment (4 - 6). Within the cystatin-fold domain there are three intrachain disulfide bonds that contribute to the characteristic fold (4, 7). The precursor molecule is described as undergoing proteolytic processing at both termini by unknown proteases. The N-terminal 16 aa residue hydrophobic segment is described as being either a signal sequence or a transmembrane (TM) segment for a type II TM protein (5, 8). In either case it gives rise to a soluble proform that undergoes further processing at the C-terminus (5). In mouse, the C-terminal six aa residues are cleaved, giving rise to a monomeric, 16 kDa heparin-binding bioactive molecule (aa 17 - 156) (5 - 7). A shorter form has been described in human (7). The activity seems to be concentrated in the nine aa's preceding the prosegment (aa 148 - 156). Retention of the prosegment blocks activity (4). The 140 aa mature segment is known to bind to the G-protein coupled receptor termed ChemR23 (5, 7). Binding results in macrophage and immature dendritic cell chemotaxis (5). The distribution of this receptor is limited to immune APCs, and it is assumed that Chemerin is an inflammatory molecule. It is unclear which cells are actually producing Chemerin, but keratinocytes, endothelial cells and osteoclasts are potential candidates (1, 7). Mature mouse Chemerin shares 67%, 84% and 82% aa sequence identity to human, rat and hamster Chemerin, respectively (6). There is apparently cross-species activity for the protein (6).

References:

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