Note: Centrifuge before opening to ensure complete recovery of vial contents.

| Description |  |
| :--- | :--- |
| Synonyms | Growth/Differentiation Factor-11;GDF-11 |
| Species | Human |
| Expression Host | Asn $299-$ Ser 407 |
| Sequence | O95390 |
| Accession | 13.4 kDa |
| Calculated Molecular Weight |  |
| Observed molecular weight | 16 kDa |
| Tag | C-His |
| Bioactivity | Measure by its ability to induce alkaline phosphatase production by ATDC5 <br> cells.The ED 50 |
| Propertics fhis effect is ${ }_{50}$ for this effect is $<4$ ng/mL. |  |

## Background

Secreted signal that acts globally to regulate anterior/posterior axial patterning during development. May play critical roles in patterning both mesodermal and neural tissues. It is required for proper vertebral patterning and orof acial development. Signals through activin receptors type-2, ACVR2A and ACVR2B, and activin receptors type-1, ACVR1B, ACVR1C and TGFBR1 leading to the phosphorylation of SMAD2 and SMAD3.

