Data Sheet (Cat.No.TMPY-02488)

TargetMol

HOXA1 Protein, Human, Recombinant (His)

General Information

Synonyms: BSAS;homeobox A1;HOX1F;HOX1

Protein Construction: A DNA sequence encoding the mature form of human HOXA1 isoform 3 (P49639-1) (Met 1-His 335) was expressed, with a polyhistide tag at the N-terminus. Predicted N terminal: Met

Species: Human

Expression Host: E. coli

Accession: P49639-1

Molecular Weight: 38 kDa (predicted); 42 kDa (reducing conditions)

QC Testing

Biological Activity: Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.

Purity: > 85 % as determined by SDS-PAGE

Endotoxin: Please contact us for more information.

Formulation: Supplied as sterile 50 mM Tris, 30% glycerol, pH 7.5.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

Protein Background

Homeobox protein Hox-A1 is a transcription factor encoded by the HOXA1 gene. This gene is one of the four types of homeobox genes each of which contains a homeobox DNA sequence that codes for the homeodomain, a region of 60 amino acids responsible for the DNA binding exhibited by these homeobox proteins. These Homeobox genes are essential metazoan genes as they determine the identity of embryonic regions along the anterior-posterior axis. The homeobox protein Hox-A1 may be involved in the placement of hindbrain segments in the proper location along the anterior-posterior axis during development. Early in its development, the vertebrate hindbrain is transiently subdivided into a series of compartments called rhombomeres. Genes have been identified whose expression patterns distinguish these cellular compartments. Two of these genes, Hoxa1 and

Hoxa2, are required for proper patterning of the early mouse hindbrain and the associated neural crest. It has been detected HOXA1 expression in a variety of human breast cancer lesions, suggesting that HOXA1 may be required for the establishment of breast cancer cell phenotype.

Reference

Barrow JR, et al. (2000) Roles of Hoxa1 and Hoxa2 in patterning the early hindbrain of the mouse. Development. 127: 933-44.
Hong YS, et al. (1995) Structure and function of the HOXA1 human homeobox gene cDNA. Gene. 159 (2): 209-14.
Gavalas A, et al. (2001) Synergy between Hoxa1 and Hoxb1: the relationship between arch patterning and the generation of cranial neural crest. Development. 128: 3017-27.