PRODUCT INFORMATION

ALK/CD246 Intracellular Domain (L1196M mutant; human, recombinant)

Item No. 43700

Overview and Properties

Synonyms:	ALK Tyrosine Kinase Receptor, Anaplastic Lymphoma Kinase, CD246, Cluster of Differentiation 246
Source:	Active recombinant human N-terminal GST-tagged ALK^{L1196M} intracellular domain expressed in insect cells
Amino Acids:	1,060-1,620
Uniprot No.:	Q9UM73
Molecular Weight:	~90 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥70% estimated by SDS-PAGE
Supplied in:	Sterile 50 mM Tris-HCl, pH 7.5, 50-300 mM sodium chloride, 10 mM glutathione, 0.1 mM EDTA, 0.25-1.0 mM DTT, 0-0.1 mM PMSF, and 10-25% glycerol
Protein Concentration:	***batch specific*** mg/ml
Activity:	***batch specific*** U/ml
Specific Activity:	***batch specific*** U/mg

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Description

Anaplastic lymphoma kinase (ALK), also known as CD246, is a receptor tyrosine kinase and member of the insulin receptor superfamily.[1] It is composed of an N-terminal extracellular domain that participates in cell-cell interactions, as well as transmembrane and juxtamembrane domains, and a C-terminal intracellular region that contains the protein kinase domain. Full-length ALK is expressed primarily in the embryonic nervous system, but the ALK kinase domain is expressed in a variety of cell types in the adult as a fusion protein.[1,2] ALK is involved in cell proliferation and survival through downstream activation of the ERK1/2 and JAK/STAT signaling pathways, respectively.[1] The fusion protein nucleophosmin-ALK (NPM-ALK) has a constitutively active ALK kinase domain and is ectopically expressed in anaplastic large-cell lymphoma (ALCL), a type of non-Hodgkin lymphoma.[3] A variety of ALK-based fusion proteins are associated with ALCL, non-small cell lung cancer (NSCLC), inflammatory myofibroblastic tumor (IMT), diffuse large B cell lymphoma (DLBCL), and other cancers.[1] Activating mutations in, and overexpression of, *ALK* have been associated with childhood neuroblastomas. Mutations in the gatekeeper residue Leu1196 to a methionine (L1196M) are associated with anticancer drug resistance.[1,4] Cayman's ALK/CD246 Intracellular Domain (L1196M mutant; human, recombinant) protein can be used for enzyme activity assays.

References

1. Roskoski, R., Jr. Anaplastic lymphoma kinase (ALK): Structure, oncogenic activation, and pharmacological inhibition. *Pharmacol. Res.* **68(1),** 68-94 (2013).
2. Vernersson, E., Khoo, N.K.S., Henriksson, M.L., *et al.* Characterization of the expression of the ALK receptor tyrosine kinase in mice. *Gene Expr. Patterns* **6(5),** 448-461 (2006).
3. Morris, S.W., Kirstein, M.N., Valentine, M.B., *et al.* Fusion of a kinase gene, *ALK*, to a nucleolar protein gene, *NPM*, in non-Hodgkin's lymphoma. *Science* **263(5151),** 1281-1284 (1994).
4. Mah, S., Park, J.H., Jung, H.-Y., *et al.* Identification of 4-phenoxyquinoline based inhibitors for L1196M mutant of anaplastic lymphoma kinase by structure-based design. *J. Med. Chem.* **60(22),** 9205-9221 (2017).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

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