



Active Human Nek8 Protein Fragment: Production, purification and optimised activity assay

Licensing opportunity for reagent suppliers
and kinase screening service providers

Challenge

Kinases are an important class of enzyme which are frequently screened as part of a drug discovery programme.

Serine/threonine-protein kinase Nek8 is an enzyme which is thought to play an important role in cell cycle progression from G2 to M phase. Mutations in the *NEK8* gene have also been associated with human cystic kidney disease.

Despite the important role of Nek8, there are currently no commercially available active proteins or screening assays, due to a number of practical challenges associated with the production of the active protein.

Solution

We have developed a new protocol for preparing and purifying recombinant Nek8 kinase domain, using readily available reagents (Figure 1).

We have also developed and optimised a specific Nek8 kinase assay that could be used alongside other assays in kinase screening or profiling studies. (Figure 2).

- **Active protein fragment**
- **Optimised activity assay**
- **Protocols available immediately**

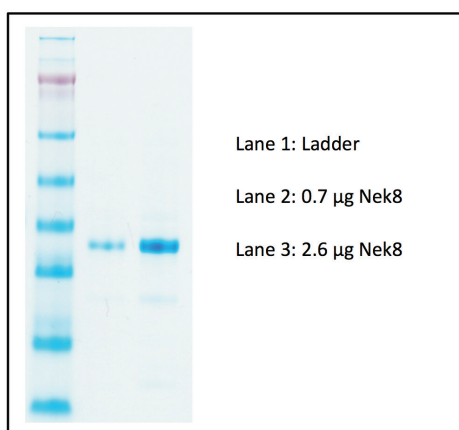


Figure 1 SDS-PAGE of Recombinant Nek8

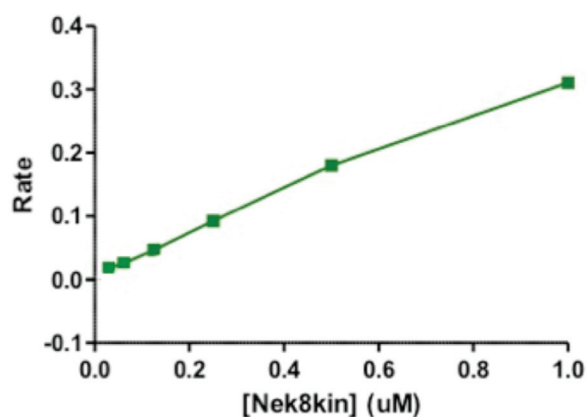


Figure 2 Recombinant Nek8 functional activity assay

Product description:

Recombinant, human kinase domain (amino acids 1-273)

Molecular mass: 31.9 kDa including tag, calculated from the protein sequence

Purity: Estimated > 90% based on SDS PAGE

Source: Bacterial Cells

Amino acid sequence:

MEKYERIRVVGRGAFGIVHLCRLKADQKLVIKQIPVEQMTKEERQAAQNECQVLKLLNHPNVIEYYENFLEDKA
 LMIAMEYAPGGTLAEFIQKRCNSLLEEETILHFFVQILLALHHVHTLILHRDLKTQNILLDKHRMVVKIGDFGI
 SKILSSKSKAYTVVGTTPCYISPELCEGKPYNQSDIWALGCVLYELASLKRAFEAANLPALVLKIMSGTFAPISD
 RYSPELRQLVLSLLSLEPAQRPPLSHISLEPAQRPPLSHIMAQPLCIRALLNLHTDVGSVR

Market

- Many protein kinases, including most from the Nek family, are already commercially available, either as active protein or as assay kits.
- Nek8 is notably absent from existing kinase screening and profiling services.

IP Status

Protocols for production and purification of active Human Nek8 protein kinase domain and for its use in an optimised activity assay have been maintained as confidential information.

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