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Certificate of Analysis

EphA2, active

(Recombinant enzyme expressed in Sf21 insect cells)

Catalog # 14-560

Lot # 28594U

Product Description: N-terminal 6His-tagged, recombinant human EphA2 residues 596–900, expressed by baculovirus in Sf21 insect cells. Purified using Ni²⁺/NTA-agarose. Purity 96% by SDS-PAGE and Coomassie blue staining. MW = 38kDa.

Specific Activity (lot# 28594U): 268U/mg, where one unit of EphA2 activity is defined as 1nmol phosphate incorporated into 0.1mg/ml poly(Glu, Tyr) (4:1) per minute at 30°C with a final ATP concentration of 100µM.

Formulation: 10µg of enzyme in 8.5µl of 50mM HEPES pH7.0, 150mM NaCl, 0.1mM EGTA, 0.03% Brij-35, 270mM sucrose, 1mM benzamidine, 0.2mM PMSF, 0.1% 2-mercaptoethanol. Frozen solution.

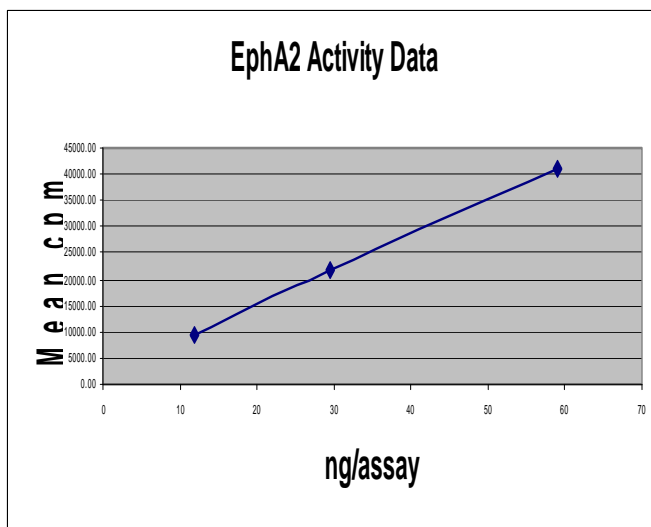
Storage and Stability: Store at -70°C from date of shipment. For maximum recovery of product, centrifuge original vial prior to removing the cap.

Handling Recommendations: Rapidly thaw the vial under cold water and immediately place on ice. Aliquot unused material into pre-chilled microcentrifuge tubes and immediately snap-freeze the vials in liquid nitrogen prior to re-storage at -70°C.

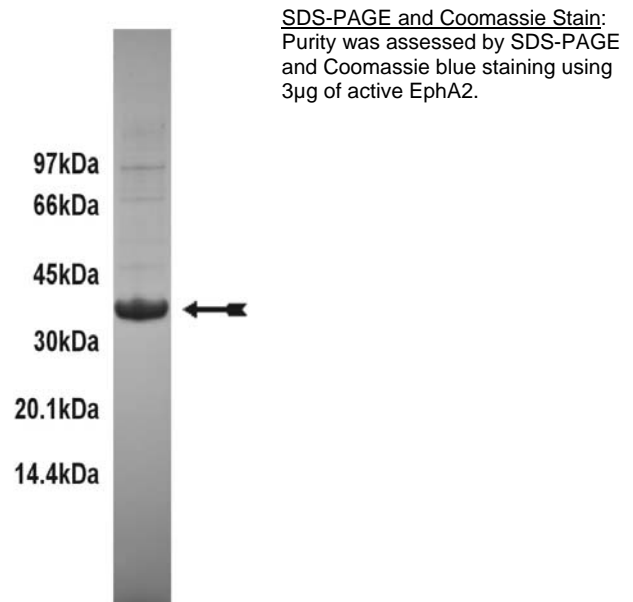
**FOR IN VITRO RESEARCH USE ONLY
NOT FOR USE IN HUMANS OR ANIMALS**

Quality Control Testing

Kinase Assay: 11.8–59ng of this lot of enzyme phosphorylated 0.1mg/ml poly(Glu, Tyr) (4:1) in the assay described on page two. Assay background was subtracted from the actual counts to yield the results shown below.



MS Tryptic Fingerprint: Confirmed identity as EphA2 with 37% amino acid coverage of the translated sequence listed on page three.



Kinase Assay Protocol

Stock Solutions:

1. **5 x Reaction Buffer:** 40mM MOPS/NaOH pH7.0, 1mM EDTA.
2. **Poly(Glu, Tyr) (4:1):** Use at a final assay concentration of 0.1mg/ml. Prepare a 1mg/ml stock and add 2.5 μ l of stock per assay point.
3. **EphA2, active:** Dilute with 20mM MOPS/NaOH pH7.0, 1mM EDTA, 5% glycerol, 0.01% Brij-35, 0.1% 2-mercaptoethanol, 1mg/ml BSA. Use 11.8–59ng per assay point.
4. **[γ -³³P]ATP:** 2.5 x magnesium acetate/[γ -³³P]ATP cocktail: 25mM MgAc and 0.25mM ATP to which is added [γ -³³P]ATP (specific activity approximately 500 - 800cpm/pmol as required.)

Assay Procedure (96 well plate format):

1. Add 5 μ l of 5 x reaction buffer per assay to wells
2. Add 2.5 μ l of **poly(Glu, Tyr) (4:1)**.
3. Add **2.5 μ l (11.8–59ng) EphA2, active**.
4. Add 5 μ l of dH₂O.
5. Add 10 μ l of diluted [γ -³³P]ATP mixture.
6. Incubate for 10 minutes at 30°C.
7. Stop the reaction by adding 5 μ l of 3% phosphoric acid.
8. Transfer a 10 μ l aliquot onto the appropriate area of a **Filtermat A**.
9. Wash the filtermat three times for 5 minutes with 75mM phosphoric acid.
10. Wash the filtermat once for 2 minutes with methanol.
11. Transfer the filtermat to a sealable plastic bag and add 4ml of scintillation cocktail.
12. Read in a scintillation counter. Compare cpm of enzyme samples with cpm of control samples that contain all assay components plus 1 μ l of 30% phosphoric acid.

EphA2 Sequence Information

Protein human EphA2
Tags N-terminal 6His
Native sequence D29 of the recombinant protein is equivalent to D596 of human EphA2.
Accession number GenBank NM_00431

Recombinant EphA2 amino acid sequence:

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1 MSYYHHHHHH DYDIPTTENL YFQGAMGSDP NQAVLKFTTE IHPSCVTRQK VIGAGEFGEV
61 YKGLMLKTSSG KKEVPVAIKT LKAGYTEKQR VDFLGEAGIM GQFSHHNIIR LEGVISKYKP
121 MMIITEYMEN GALDKFLREK DGEFSLVQLV GMLRGIAAGM KYLANMNYVH RDLAARNILV
181 NSNLVCKVSD FGLSRVLEDD PEATYTTSGG KIPIRWTAPE AISYRKFTSA SDVWSFGIVM
241 WEVMTYGERP YWELSNHEVM KAINDFRLP TPMDCPSAIY QLMMQCWQQE RARRPKFADI
301 VSILDKLIRA PDSLKTLADF DPRVSIRLPS TSG
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Recombinant EphA2 nucleotide sequence:

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1 atgtcgact accatcacca tcaccatcac gattacgata tcccaacgac cgaaaacctg
61 tattttcagg gcgccatggg atctgacccc aaccaggctg tgttgaagtt cactaccgag
121 atccatccat cctgtgtcac tcggcagaag gtgatcggag caggagagtt tggggagggtg
181 tacaagggca tgctgaagac atcctcgggg aagaaggagg tgccggtggc catcaagacg
241 ctgaaagccg gctacacaga gaagcagcga gtggacttcc tcggcgaggc cggcatcatg
301 ggccagttca gccaccacaa catcatccgc ctagagggcg tcatctccaa atacaagccc
361 atgatgatca tcaactgagta catggagaat ggggccctgg acaagttcct tcggggagaag
421 gatggcgagt tcagcgtgct gcagctggtg ggcatgctgc ggggcatcgc agctggcatg
481 aagtacctgg ccaacatgaa ctatgtgcac cgtgacctgg ctgcccgcaa catcctcgtc
541 aacagcaacc tggctgcaa ggtgtctgac tttggcctgt cccgcgtgct ggaggacgac
601 cccgaggcca cctacaccac cagtggcggc aagatcccca tccgctggac cgccccggag
661 gccatttcct accggaagtt cacctctgcc agcgacgtgt ggagctttgg cattgtcatg
721 tgggagggtg tgacctatgg cgagcggccc tactgggagt tgtccaacca cgaggatgatg
781 aaagccatca atgatggctt ccggctcccc acacccatgg actgcccctc cgccatctac
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901 gtcagcatcc tggacaagct ccttcgtgcc cctgactccc tcaagaccct ggctgacttt
961 gacccccgcg tgtctatccg gctccccagc acgagcggct ag
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