

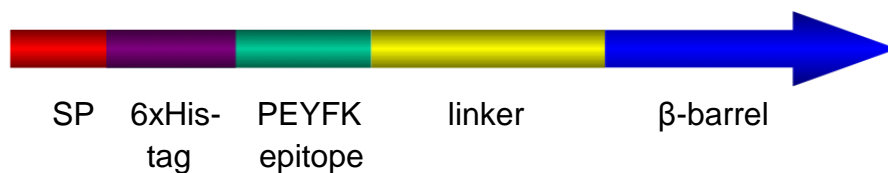
## Supplementary Material

### S2.1 Cloning of FP-HisN163

The plasmid pET-SH3, which encodes the transport unit of AIDA-I and a PEYFK epitope as passenger domain for immunodetection (Jose and Handel, 2003), was digested with the restriction enzymes *NdeI* and *BglII* and fused with a synthetic oligonucleotide:

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5' -TATGCACATCACCATCATCACCCTCTAGAA-3'
3' -ACGTGTAGTTGGTAGTAGTGGTGAGATCTTCTAG-5'
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As a result, a six-fold histidine tag was introduced at the N-terminus downstream of the signal peptide gaining the plasmid pIG101. Subsequently, the sequence encoding FP-HisN163 was cloned into the plasmid pJM007 (Maurer et al., 1997) using the restriction sites *NdeI* and *BamHI*, which results in the plasmid pIG501. The expression was controlled by the constitutive  $T_K$  promoter.



**Figure S1 Schematic representation of FP-HisN163**

SP: signal peptide; His: histidine

### S2.2 Detergent screen

The detergent screen includes the following detergents, each at a final concentration of 1 % (v/v):

n-Dodecyl β-D-maltoside (DDM), n-Decyl β-D-maltoside (DM), Fos-Choline 14, N,N-Dimethyldodecylamine N-oxide (LDAO), FOS-MEA12, NP 40, 3-[(3-cholamidopropyl) dimethylammonio]-1-propanesulfonate (CHAPSO) and n-Tridecyl β-D-maltoside (TDM).

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AIDA-I      NKAYSIIWHSRQAWIVASELARGHGFVLAKNTLLVLAVVSTIGNAFVAVNISGTVSSGG 60
FP-HisN163 -----
AIDA-I      TVSSGETQIVYSGRGNATVNSGGTQIVNNGGKTATTVNSSGSQNVGTSGATISTIVN 120
FP-HisN163 -----
AIDA-I      SGGIQRVSSGGVASATNLSGGAQNIYNLGHASNTVIFSGGNQTFISGGITDSTNISSGGQ 180
FP-HisN163 -----
AIDA-I      QRVSSGGVASNTTINSSGAQNILSEEGAISTHISSGGNQYISAGANATETIVNSGGFQRV 240
FP-HisN163 -----
AIDA-I      NSGAVATGTVLSSGTQNVSSGSAISTSVYNSGVQTVFAGATVTDTTVNSGGNQNISSGG 300
FP-HisN163 -----
AIDA-I      IVSETTVNVSGTQNIYSGGSALSANIKGSQIVNSEGTAINTLVSDGGYQHIRNGGIASGT 360
FP-HisN163 -----
AIDA-I      IVNQSGYVNISSGGYAESTIINSGGTLRVLSDGYARGTILNNSGRENVSNGGVSYNAMIN 420
FP-HisN163 -----
AIDA-I      TGGNQYIYSDGEATAAIVNTSGFQRINSGGTAPVQNSVVVTRTVSSAAKPFDAEVYSGGK 480
FP-HisN163 -----
AIDA-I      QTVYLWRGIWYSNFLTAVWSMFPGTASGANVNLSGRLNAFAGNVVGTILNQEGRQYVYSG 540
FP-HisN163 -----
AIDA-I      ATATSTVGNNEGREYVLSGGITDGTVLNSGGLQAVSSGGKASATVINEGGAQFVYDGGQV 600
FP-HisN163 -----
AIDA-I      TGTNIKNGGTIRVDSGASALNIALSSGGNLFSTGATLPELTTMAALSVSQNHASNIVLE 660
FP-HisN163 -----
AIDA-I      NGGLLRVTSGGTATDTTVNSAGRLRIDGGGTINGTTINADGIVAGTNIQNQDNFILNLA 720
FP-HisN163 -----
AIDA-I      ENYDFEDELSSGSLVVKDNTGIMTYAGTLTQAQGVNVKNGGIIFDSAVVNADMAVNQNAY 780
FP-HisN163 -----
AIDA-I      INISDQATINGSVMNNGSIVINNSIINGNITNDADLSFGTAKLLSATVNGSLVNKNKIIA 840
FP-HisN163 -----
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AIDA-I      GNTLTVSNYTGTPGSVISLGGVLEGDNSLTDRLVVKGNTSGQSDIIVVNEDGSGGQTRDG 900
FP-HisN163 GNTLTVSNYTGTPGSVISLGGVLEGDNSLTDRLVVKGNTSGQSDIIVVNEDGSGGQTRDG 90
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AIDA-I      INIISVEGNSDAEFLKNRVAVAGAYDYTLQKGNESGTDNKGWYLTSHLPTSDTRQYRPN 960
FP-HisN163 INIISVEGNSDAEFLKNRVAVAGAYDYTLQKGNESGTDNKGWYLTSHLPTSDTRQYRPN 150
*****
AIDA-I      GSYATNMALANSFLMDLNERKQFRAMSDNTQPESASVWMKITGGISSGKLNDGQNKTTT 1020
FP-HisN163 GSYATNMALANSFLMDLNERKQFRAMSDNTQPESASVWMKITGGISSGKLNDGQNKTTT 210
*****:*****:*****
AIDA-I      NQFINQLGGDIYKFHAEQLGDFTLGIMGGYANAKGKTINYTSNKAARNTLDGYSVGVYGT 1080
FP-HisN163 NQFINQLGGDIYKFHAEQLGDFTLGIMGGYANAKGKTINYTSNKAARNTLDGYSVGVYGT 270
*****
AIDA-I      WYQNGENATGLFAETWMQYNWFNASVKGDGLEEEKYNLNGLTASAGGGYNLNVHTWTSPE 1140
FP-HisN163 WYQNGENATGLFAETWMQYNWFNASVKGDGLEEEKYNLNGLTASAGGGYNLNVHTWTSPE 330
*****
AIDA-I      GITGEFWLQPHLQAVWMGVTPDTHQEDNGTVVQGAGKNNIQTKAGIRASWKVKSTLDKDT 1200
FP-HisN163 GITGEFWLQPHLQAVWMGVTPDTHQEDNGTVVQGAGKNNIQTKAGIRASWKVKSTLDKDT 390
*****
AIDA-I      GRRFRPYIEANWIHNHTEFGVKMSDDSQLLSGSRNQGEIKTGIEGVITQNLVSVNGGVAYQ 1260
FP-HisN163 GREFSPYIEANWIHNHTEFGVKMSDDSQLLSGSRNQGEIKTGIEGVITQNLVSVNGGVAYQ 450
**.* *****
AIDA-I      AGGHGSNAISGALGIKYSF 1279
FP-HisN163 AGGHGSNAISGALGIKYSF 469

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**Figure S2 Alignment of AIDA-I (Uniprot code Q03155) and FP-HisN163**

## References

- Jose, J. & Handel, S. (2003). *Chembiochem*, 4: 396-405.  
Maurer, J., Jose, J. & Meyer, T. F. (1997). *J Bacteriol*, 179: 794-804.