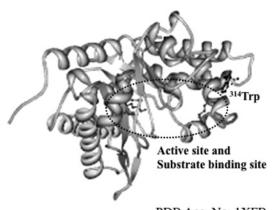




Proteomic analysis of endogenous nitrotryptophan-containing proteins in rat hippocampus and cerebellum

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PDB Acc. No. 1XFB

Figure S1 3D models of fructose-bisphosphate aldolase C The results for 3D modelling were downloaded from Protein Data Bank. The accession number of the protein is 1XFB. NO₂Trp³¹⁴ is located within a region adjacent to the active site and substrate-binding site.

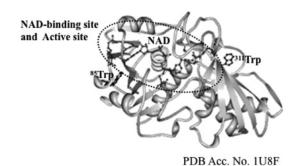
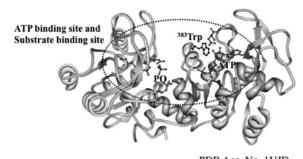


Figure S2 3D models of GAPDH The results for 3D modelling were downloaded from Protein Data Bank. The accession number of the protein is 1U8F. Both Trp85 and Trp311, which were detected as NO₂Trps in the present study, are located in a region adjacent to the NAD-binding site and the active site.



PDB Acc. No. 1VJD

Figure S3 3D models of phosphoglycerate kinase 1 The results for 3D modelling were downloaded from Protein Data Bank. The accession number of the protein is 1VJD. Nitrated Trp³⁸³ is located in a region adjacent to the ATP-binding site and the substrate-binding

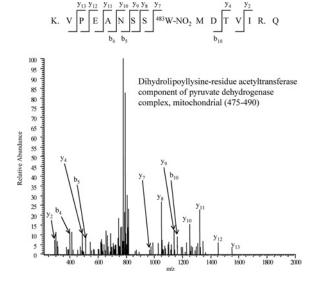


Figure S4 MS/MS spectrum of the $\rm K^{475}.VPEANSS^{483}W\text{-}NO_2MDTVIR.Q^{490}$ from tryptic from PDEC2, drial in the hippocampus

W-NO2 indicates NO2Trp residue.

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Figure S5 MS/MS spectrum of the tryptic peptide $R^{606}.VVDGAVGAQ^{616}W\text{-}NO_2LAEFKK.Y^{623}$ from PDEC2, mitochondrial in the hippocampus

Figure S6 MS/MS spectrum of the tryptic peptide R^{77} .SGPFGQIFRPDNFVFGQSGAGNN 101 W-NO $_2$ AK.G 104 from tubulin β -2A, 2B, 2C and 5 chains in the hippocampus W-NO $_2$ indicates the NO $_2$ Trp residue.

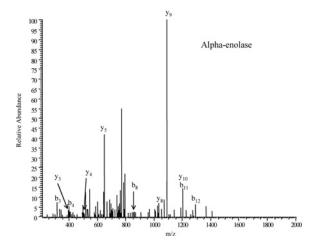


Figure S7 MS/MS spectrum of the tryptic peptide $\rm K^{358}.LAQSNG^{365}W\text{-}NO_2GVMVSHR.S^{373}$ from $\alpha\text{-}enolase$ in the hippocampus

W-NO₂ indicates the NO₂Trp residue.

Figure S8 MS/MS spectrum of the tryptic peptide $\rm K^{25}.IQLMYI^{32}W\text{-}NO_2VDGTGEGLR.C^{42}$ from glutamine synthetase in the hippocampus

 $W\text{-NO}_2$ indicates the $NO_2\text{Trp}$ residue. M^* indicates oxidation of methionine residue.

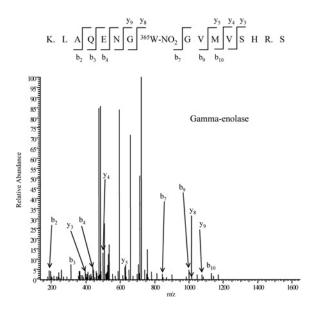


Figure S9 MS/MS spectrum of the tryptic peptide $\rm K^{358}.LAQENG^{365}W\text{-}NO_2GVMVSHR.S^{373}$ from $\gamma\text{-}enolase$ in the hippocampus

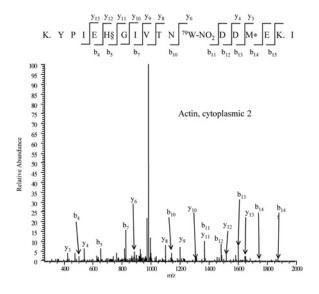


Figure S10 MS/MS spectrum of the tryptic peptide $\rm K^{68}.YPIEHGIVTN^{79}W-NO_2DDMEK.I^{85}$ from actin, cytoplasmic 2 in the hippocampus

W-NO $_2$ indicates the NO $_2$ Trp residue. H \S indicates the methylation of the histidine residue. M* indicates oxidation of the methionine residue.

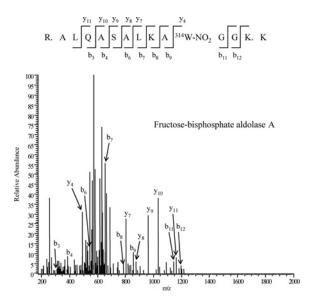


Figure S11 MS/MS spectrum of the tryptic peptide $R^{304}.ALQASALKA^{314}W\text{-}NO_2GGK.K^{318}$ from fructose-bisphosphate aldolase A in the hippocampus

W-NO2 indicates the NO2Trp residue.

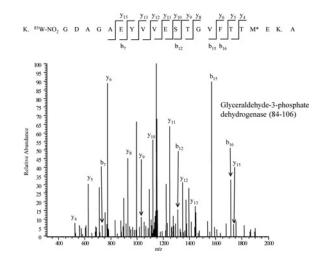


Figure S12 MS/MS spectrum of the tryptic peptide $\rm K^{84}$. $\rm W^{85}\text{-}NO_2GDAGAEYVVESTGVFTTMEK.A^{106}$ from GAPDH in the hippocampus

W-NO $_{2}$ indicates the NO $_{2}\mbox{Trp}$ residue. $\mbox{M*}$ indicates oxidation of methionine residue.

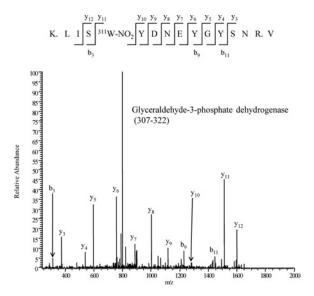


Figure S13 MS/MS spectrum of the tryptic peptide ${\rm K}^{307}.{\rm LIS}^{311}{\rm W-NO}_2{\rm YDNEYGYSNR.V}^{322}$ from GAPDH in the hippocampus

Figure S14 MS/MS spectrum of the tryptic peptide K^{187} .APSSSSAGISE¹⁹⁹W-NO₂LDQK.L²⁰⁴ from electron transfer flavoprotein subunit α , mitochondrial in the hippocampus W-NO₂ indicates the NO₂Trp residue.

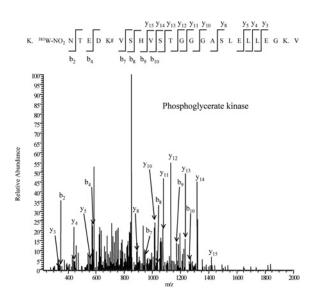


Figure \$15 MS/MS spectrum of the tryptic peptide $\rm K^{382}$. $\rm W^{383}\text{-}NO_2NTEDKVSHVSTGGGASLELLEGK}$. $\rm V^{407}$ from phosphoglycerate kinase 1 in the hippocampus

 $W\text{-NO}_2$ indicates the $NO_2\text{Trp}$ residue. K# indicates the formylation of the lysine residue.

Figure S16 MS/MS spectrum of the tryptic peptide $K^{257}.SFLI^{262}W-NO_2VNEEDHTR.V^{271}$ from creatine kinase U-type, mitochondrial in the hippocampus W-NO $_2$ indicates the NO $_2$ Trp residue.

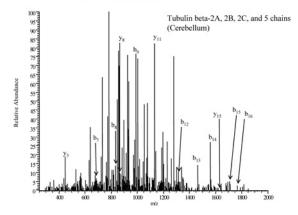


Figure S17 MS/MS spectrum of the tryptic peptide R^{77} .SGPFGQIFRPDNFVFGQSGAGNN 101 W-NO $_2$ AK.G 104 from tubulin β -2A, -2B, -2C and -5 chains in the cerebellum W-NO $_2$ indicates the NO $_2$ Trp residue.

$$K. \ L \ A \ Q \ S \ N \ G \ ^{365}W-NO_2 \ G \ V \ M \ V \ S \ H \ R. \ S$$

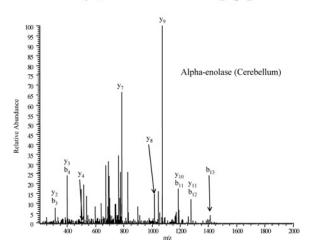


Figure S18 MS/MS spectrum of the tryptic peptide $\rm K^{358}.LAQSNG^{365}W\text{-}NO_2GVMVSHR.S^{373}$ from $\alpha\text{-}enolase$ in the cerebellum

 $\mbox{W-NO}_2$ indicates the $\mbox{NO}_2\mbox{Trp}$ residue.

K. L A Q E N G
365
W-NO₂ 97 97 98 98 97 97 98 97 98

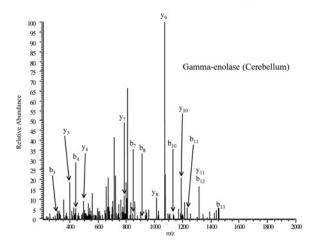


Figure S19 MS/MS spectrum of the tryptic peptide $\rm K^{358}.LAQENG^{365}W\text{-}NO_2GVMVSHR.S^{373}$ from $\gamma\text{-}enolase$ in the cerebellum

W-NO₂ indicates the NO₂Trp residue.

$$\text{K. Y P I E H}_{\$} \text{ G } \underbrace{\prod_{b_{7}}^{y_{9}} \underbrace{y_{8}}_{b_{9}} \underbrace{y_{7}}_{b_{10}} \underbrace{y_{5}}_{79} \text{W-NO}_{2} \underbrace{D} \text{ D M* E K. I}$$

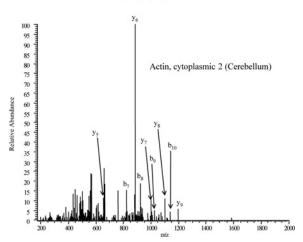


Figure S20 MS/MS spectrum of the tryptic peptide $\rm K^{68}.YPIEHGIVTN^{79}W-NO_2DDMEK.I^{85}$ from actin cytoplasmic 2 in the cerebellum

W-NO $_2$ indicates the NO $_2$ Trp residue. H \S indicates the methylation of the histidine residue. M* indicates the oxidation of the methionine residue.

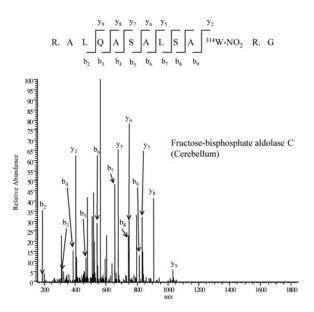
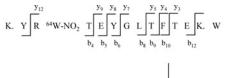


Figure S21 MS/MS spectrum of the tryptic peptide $R^{304}.ALQASALSA^{314}W-NO_2R.G^{315}$ from fructose-bisphosphate aldolase C in the cerebellum

Figure S22 MS/MS spectrum of the tryptic peptide ${\rm K^{307}.LIS^{311}W\text{-}NO_2YDNEYGYSNR.V^{322}}$ from GAPDH in the cerebellum

W-NO₂ indicates the NO₂Trp residue.



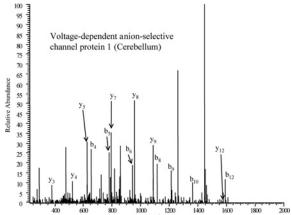


Figure S23 MS/MS spectrum of the tryptic peptide $\rm K^{61}.YRW^{64}-NO_2TEYGLTFTEK.W^{75}$ from voltage-dependent anion-selective channel protein 1 in the cerebellum

W-NO₂ indicates the NO₂Trp residue.

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