

Supplementary Information

Table S1. The activity of SVBP-VASH1 heterodimer toward peptide substrate detected by mass spectrometry

Proteins	Peptides	MS Intensity (Substrate)	MS Intensity (Product)	Percentage of detyrosination (Product/(Substrate+product))
No protein	EEEGEEY	7.3x10 ⁹	*ND	#N/A
SVBP ₁₋₆₆ -VASH1 ₇₀₋₃₀₆	EEEGEEY	2.6x10 ⁵	1.3x10 ⁷	98%
SVBP ₃₋₄₉ -VASH1 ₇₀₋₃₀₆	EEEGEEY	ND	1.5x10 ⁷	100%
SVBP ₃₋₄₉ -VASH1 C169A ₇₀₋₃₀₆	EEEGEEY	4.4x10 ⁹	4.02x10 ⁶	0.09%
SVBP ₃₋₄₉ -VASH1 C169S ₇₀₋₃₀₆	EEEGEEY	7.0x10 ⁹	ND	N/A
SVBP ₃₋₄₉ -VASH1 H204A ₇₀₋₃₀₆	EEEGEEY	6.8x10 ⁹	2.8x10 ⁵	0.004%
SVBP ₃₋₄₉ -VASH1 Y134A ₇₀₋₃₀₆	EEEGEEY	6.3x10 ⁹	8.0x10 ⁶	0.1%
SVBP ₃₋₄₉ -VASH1 K146A ₇₀₋₃₀₆	EEEGEEY	6.9x10 ⁹	1.3x10 ⁶	0.02%
SVBP ₃₋₄₉ -VASH1 S221A ₇₀₋₃₀₆	EEEGEEY	4.3x10 ⁹	7.8x10 ⁶	0.2%
SVBP ₃₋₄₉ -VASH1 R222A ₇₀₋₃₀₆	EEEGEEY	5.7x10 ⁹	ND	N/A
SVBP ₃₋₄₉ -VASH1 K146A/R222A ₇₀₋₃₀₆	EEEGEEY	7.3x10 ⁹	6.6x10 ⁵	0.009%
No protein	GEEEGECY	1.7x10 ⁹	ND	N/A
SVBP ₃₋₄₉ -VASH1 ₇₀₋₃₀₆	GEEEGECY	4.3x10 ⁹	3.1x10 ⁷	0.7%

*ND: Not detectable; #N/A: Not applicable