

**Table S4: Average number of deuterons incorporated in Ssa1-NBD in the presence and absence of ATP**

PEPTIDE		AVERAGE NUMBER OF DEUTERONS INCORPORATED			
Start	End	Mass (exp) [Da]	HX time:	10 s	2 min
<b>16</b>	<b>39</b>	2657.3	Ssa1-NBD <sup>(1)</sup>	4.8	10.0
			Ssa1-NBD + ATP 1 mM	5.3	10.3
<b>23</b>	<b>39</b>	1903.0		4.7	6.8
				4.9	7.0
<b>40</b>	<b>45</b>	652.3		1.8	1.9
				1.7	1.8
<b>40</b>	<b>48</b>	1050.5		3.5	3.6
				3.5	3.6
<b>46</b>	<b>66</b>	2246.1		8.0	9.6
				7.7	9.6
<b>49</b>	<b>63</b>	1500.7		6.0	7.5
				5.5	7.2
<b>49</b>	<b>66</b>	1847.9		6.5	7.8
				6.2	7.9
<b>67</b>	<b>83</b>	1942.0		N.D.	5.0
				N.D.	4.8
<b>83</b>	<b>92</b>	1232.6		1.4	2.0
				1.7	2.0
<b>93</b>	<b>105</b>	1486.8		1.4	N.D.
				1.2	N.D.
<b>105</b>	<b>119</b>	1711.8		2.1	3.1
				2.1	3.2
<b>105</b>	<b>120</b>	1842.9		2.4	3.3
				2.4	3.3
<b>106</b>	<b>119</b>	1564.8		1.8	3.4
				1.9	3.3
<b>120</b>	<b>133</b>	1598.8		0.1	0.4
				0.1	0.7
<b>121</b>	<b>130</b>	1104.6		0.0	0.1
				0.0	0.2
<b>121</b>	<b>133</b>	1467.7		0.3	0.5
				0.4	0.4
<b>123</b>	<b>133</b>	1255.6		0.1	0.4
				0.1	0.5
<b>132</b>	<b>139</b>	878.4		1.9	3.4
				1.8	3.2
<b>140</b>	<b>147</b>	818.4		0.0	0.2
				0.6	0.9
<b>140</b>	<b>165</b>	2692.4		1.9	3.9
				2.5	4.5
<b>148</b>	<b>165</b>	1892.0		1.1	1.8
				1.0	1.8
<b>149</b>	<b>165</b>	1744.8		1.0	1.6
				1.0	1.9

<b>168</b>	<b>178</b>	1167.6		2.2	2.3
				2.2	2.2
<b>169</b>	<b>178</b>	1054.6		1.4	1.5
				1.3	1.4
<b>207</b>	<b>214</b>	892.4		1.8	2.9
				1.7	2.8
<b>215</b>	<b>229</b>	1498.7		2.5	4.5
				2.1	3.2
<b>216</b>	<b>229</b>	1369.6		2.4	4.0
				2.1	2.7
<b>230</b>	<b>241</b>	1530.7		0.5	1.9
				0.3	0.6
<b>242</b>	<b>254</b>	1605.9		3.8	5.1
				3.5	4.8
<b>242</b>	<b>256</b>	1833.0		5.5	7.8
				4.9	7.7
<b>265</b>	<b>280</b>	1748.9		4.7	7.6
				3.6	5.1
<b>266</b>	<b>280</b>	1619.9		4.5	6.4
				3.6	4.4
<b>285</b>	<b>290</b>	726.3		1.0	1.6
				0.8	1.2
<b>307</b>	<b>315</b>	1062.5		1.2	1.5
				0.8	0.9
<b>307</b>	<b>323</b>	1986.1		0.4	1.1
				0.4	0.8
<b>307</b>	<b>330</b>	2787.5		1.7	3.2
				1.5	2.7
<b>316</b>	<b>323</b>	941.6		0.6	0.7
				0.6	0.4
<b>316</b>	<b>330</b>	1742.9		1.3	2.0
				1.2	1.7
<b>331</b>	<b>346</b>	1707.1		1.8	3.8
				0.5	1.2
<b>331</b>	<b>348</b>	1907.2		1.4	3.5
				0.4	1.6
<b>331</b>	<b>349</b>	2022.2		1.5	3.7
				0.5	1.6
<b>334</b>	<b>346</b>	1381.8		1.4	3.3
				0.6	1.0
<b>334</b>	<b>349</b>	1697.0		1.5	3.5
				0.5	1.0
<b>347</b>	<b>364</b>	2094.0		4.7	6.8
				4.8	6.8
<b>349</b>	<b>365</b>	1964.9		4.5	6.7
				4.8	6.7
<b>350</b>	<b>364</b>	1778.8		4.7	6.8
				4.5	6.4
<b>365</b>	<b>373</b>	848.4		0.1	0.1
				0.1	0.1
<b>366</b>	<b>373</b>	777.4		0.1	0.1
				0.0	0.0

(1) The data for Ssa-NBD corresponds to that of Table S5, dataset 2