## Figure 1A.

| TEER | aCSF | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Baseline** | 164 | 168 | 165 | 166 | 163 | 161 | 165 | 167 | 168 |
| **post-Pulse** | 168 | 164 | 165 | 167 | 164 | 166 | 162 | 165 | 165 |
| **10 min** | 164 | 162 | 165 | 163 | 168 | 169 | 166 | 167 | 168 |
| **20 min** | 165 | 162 | 163 | 165 | 166 | 167 | 165 | 166 | 165 |
| **30 min** | 167 | 163 | 166 | 164 | 161 | 163 | 162 | 163 | 169 |

| TEER | aCSF+ zoniporide (10nM) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Baseline** | 167 | 163 | 162 | 165 | 166 | 169 | 167 | 162 | 165 |
| **post-Pulse** | 192 | 194 | 199 | 189 | 194 | 195 | 194 | 189 | 196 |
| **10 min** | 196 | 191 | 198 | 188 | 196 | 196 | 198 | 197 | 194 |
| **20 min** | 196 | 191 | 197 | 195 | 192 | 197 | 195 | 193 | 192 |
| **30 min** | 195 | 196 | 198 | 197 | 198 | 199 | 195 | 189 | 190 |

| TEER | KCl (60mM) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Baseline** | 165 | 168 | 166 | 165 | 164 | 167 | 165 | 164 | 162 |
| **post-Pulse** | 134 | 132 | 137 | 128 | 131 | 137 | 125 | 132 | 133 |
| **10 min** | 137 | 135 | 134 | 135 | 136 | 126 | 137 | 132 | 129 |
| **20 min** | 138 | 134 | 127 | 128 | 137 | 127 | 132 | 134 | 128 |
| **30 min** | 134 | 136 | 134 | 134 | 130 | 133 | 133 | 133 | 134 |

| TEER | KCl (60mM)+ zoniporide (10nM) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Baseline** | 163 | 166 | 164 | 162 | 164 | 166 | 165 | 162 | 167 |
| **post-Pulse** | 152 | 148 | 152 | 146 | 153 | 152 | 153 | 152 | 153 |
| **10 min** | 150 | 152 | 151 | 156 | 154 | 152 | 154 | 157 | 150 |
| **20 min** | 152 | 153 | 156 | 155 | 154 | 149 | 154 | 151 | 150 |
| **30 min** | 150 | 146 | 152 | 152 | 149 | 151 | 146 | 147 | 151 |

## Figure 1B.

| | **AUC (mean ± SEM)** |
|---|---|
| aCSF | 660.5 ± 2.957 |
| aCSF+ zoniporide (10nM) | 762.8.5 ± 4.242 |
| KCl (60mM) | 546.5 ± 5.048 |
| KCl (60mM)+ zoniporide (10nM) | 613.6 ± 3.368 |

## Figure 1C.

**During pulse: 0-5 min**

| | % of naïve ± SEM | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **naïve** | 90.33 | 96.08 | 120.19 | 93.40 | 89.94 | 108.35 | 101.71 | 88.48 | 103.33 | 103.64 | 104.56 |
| **aCSF** | 105.45 | 72.73 | 109.28 | 98.56 | 126.00 | 116.32 | 75.90 | 72.24 | 116.78 | 98.07 | 108.89 |
| **KCl** | 121.34 | 125.17 | 142.97 | 124.40 | 189.37 | 161.29 | 182.92 | 140.76 | 132.87 | | |
| **aCSF+zoniporide** | 75.22 | 79.23 | 80.96 | 81.91 | 113.85 | 111.76 | 100.38 | 78.58 | 83.37 | 92.34 | 81.83 |
| **KCl+zoniporide** | 106.03 | 112.15 | 94.16 | 100.29 | 144.02 | 105.69 | 157.87 | 125.91 | 138.28 | 131.48 | 136.74 |

## Figure 1D.

**Post pulse: 6-30 min**

| | % of naïve ± SEM | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **naïve** | 93.87 | 103.38 | 101.12 | 101.63 | 99.22 | 93.70 | 107.08 | 109.33 | 96.29 | 101.16 | 93.21 |
| **aCSF** | 105.72 | 101.28 | 104.53 | 98.86 | 94.64 | 93.85 | 95.66 | 94.63 | 100.06 | 105.47 | 86.30 |
| **KCl** | 105.16 | 90.74 | 104.17 | 95.29 | 97.82 | 76.18 | 92.77 | 100.13 | 84.07 | 84.32 | 76.34 |
| **aCSF+zoniporide** | 80.67 | 77.38 | 88.56 | 86.93 | 90.11 | 79.63 | 88.42 | 84.48 | 89.38 | 102.39 | 101.45 |
| **KCl+zoniporide** | 87.13 | 88.00 | 70.73 | 79.45 | 93.21 | 90.64 | 79.89 | 111.63 | 98.71 | 98.18 | 92.96 |

## Figure 1E.

**During pulse: 0-5 min**

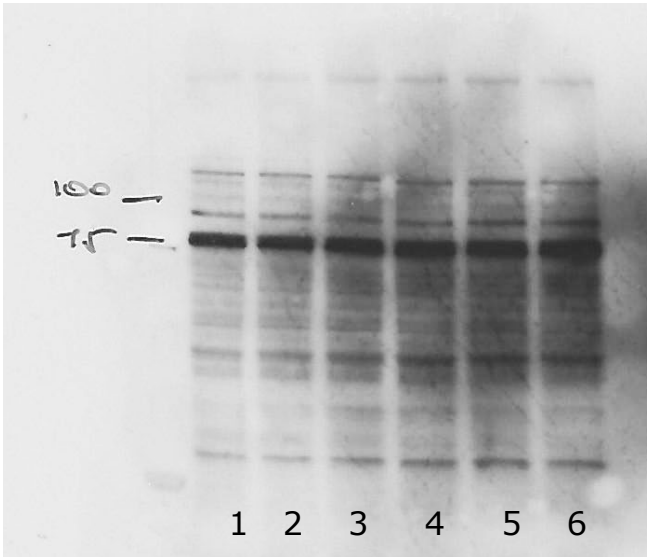
| | | % of WT naïve ± SEM | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **wild-type naïve** | | 108.16 | 92.58 | 99.26 | 110.66 | 97.44 | 92.04 | 116.82 | 100.76 | 82.42 |
| **empty vector control** | **media** | 203.53 | 184.79 | 174.58 | 88.80 | 112.15 | 105.26 | 128.18 | 134.24 | 136.52 |
| | **aCSF** | 222.45 | 212.06 | 211.32 | 135.36 | 119.84 | 135.63 | 135.00 | 121.52 | 132.58 |
| | **KCl** | 226.53 | 283.30 | 289.24 | 185.96 | 201.48 | 195.91 | 215.30 | 207.58 | |
| ***SLC9A1* sgRNA** | **media** | 66.42 | 78.85 | 77.74 | 75.84 | 90.01 | 83.81 | 92.73 | 85.30 | 83.94 |
| | **aCSF** | 89.98 | 58.63 | 55.29 | 92.85 | 89.74 | 89.20 | 87.73 | 106.97 | 87.27 |
| | **KCl** | 76.07 | 93.69 | 95.36 | 147.91 | 158.43 | 139.54 | 160.61 | 127.42 | 126.52 |

## Figure 1F.

**Post pulse: 6-30 min**

| | | % of WT naïve ± SEM | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **empty vector control** | **aCSF** | 118.06 | 114.00 | 129.97 | 100.17 | 94.67 | 102.64 | 115.30 | 126.16 | 124.52 |
| | **KCl** | 106.44 | 120.12 | 104.47 | 92.29 | 149.24 | 104.10 | 104.97 | 115.91 | 112.41 |
| ***SLC9A1* sgRNA** | **aCSF** | 104.47 | 103.62 | 107.94 | 79.34 | 84.17 | 92.03 | 97.20 | 98.28 | 97.58 |
| | **KCl** | 106.64 | 107.26 | 92.48 | 75.16 | 89.03 | 91.93 | 86.59 | 97.56 | 87.39 |

Fig 2B
NHE1
ladder: Precision PlusProtein™ Dual Color Standards, BioRad




1: Slc9A1 sgRNA
2: Slc9A1 sgRNA
3: empty vector control
4: empty vector control
5: empty vector control
6: empty vector control

alpha tubulin

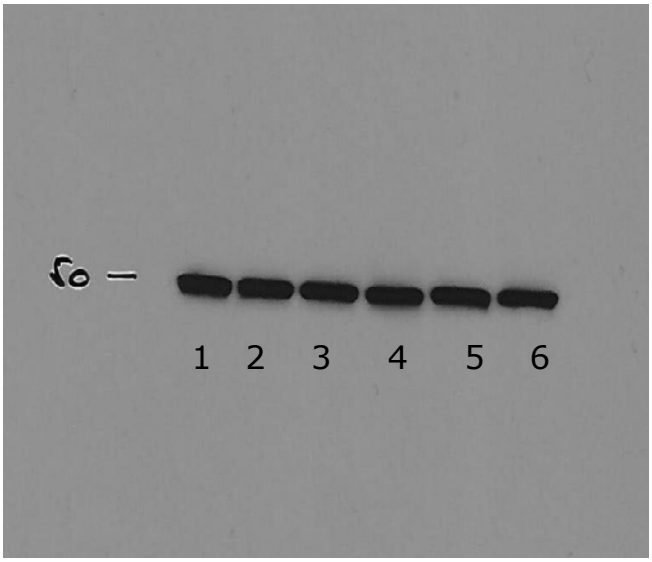
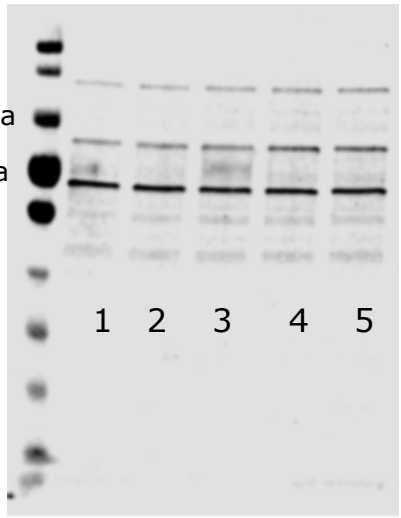


Fig 2B
NHE1
ladder: ThermoScientific, PageRuler Prestained Protein ladder




1: Slc9A1 sgRNA
2: Slc9A1 sgRNA
3: Slc9A1 sgRNA
4: empty vector control
5: empty vector control

alpha tubulin

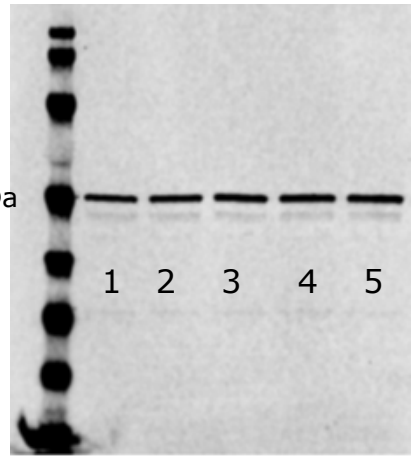
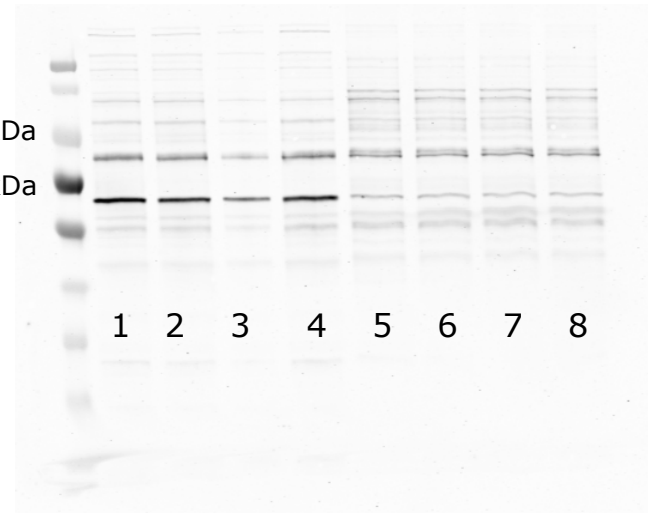
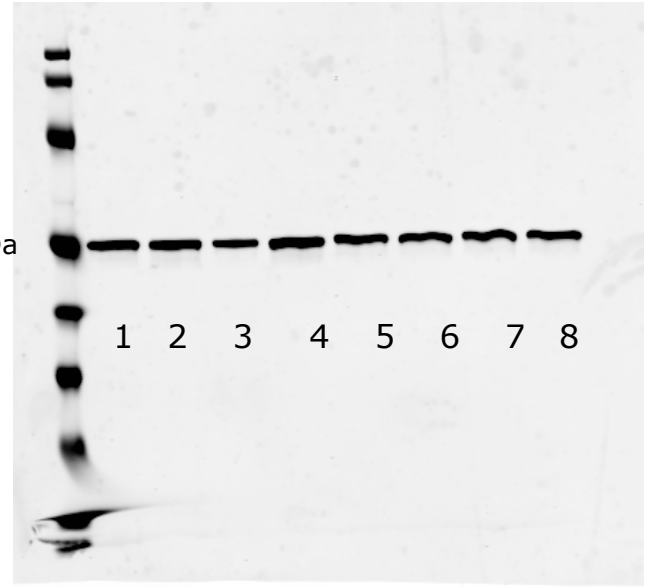


Fig 2B
NHE1
ladder: ThermoScientific, PageRuler Prestained Protein ladder




1: empty vector control
2: empty vector control
3: Slc9A1 sgRNA
4: empty vector control
5: Slc9A1 sgRNA
6: Slc9A1 sgRNA
7: Slc9A1 sgRNA
8: Slc9A1 sgRNA

alpha tubulin



## Figure 3A.

**During pulse: 0-5 min**

| | % of naïve ± SEM | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **naïve** | 80.87 | 114.78 | 52.17 | 99.13 | 120.00 | 133.04 | 136.01 | 74.59 | 74.59 | 107.50 | 95.43 | 111.88 | 108.12 | 91.88 | 105.06 | 103.40 | 95.63 | 95.90 |
| **aCSF** | 122.61 | 148.70 | 120.00 | 120.00 | 91.31 | 99.13 | 109.69 | 142.60 | 145.89 | 182.08 | 164.53 | 94.16 | 83.19 | 117.09 | 84.00 | 83.65 | 84.41 | 83.56 |
| **KCl** | 146.09 | 127.83 | 120.00 | 143.48 | 195.65 | 172.18 | 152.47 | 163.44 | 162.34 | 172.21 | 157.95 | 171.12 | 115.61 | 120.37 | 92.88 | 130.12 | 108.88 | 119.25 |
| **aCSF+zoniporide** | 126.81 | 122.64 | 93.41 | 102.94 | 115.54 | 104.68 | 132.68 | 141.84 | 130.69 | 128.15 | 136.94 | 137.89 | 142.66 | | | | | |
| **KCl+zoniporide** | 151.21 | 186.43 | 162.69 | 165.69 | 209.74 | 193.39 | 182.40 | 198.50 | 217.96 | 204.62 | 207.58 | 193.07 | 150.50 | | | | | |

## Figure 3B.

**Post pulse: 6-30 min**

| | % of naïve ± SEM | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **naïve** | 140.55 | 75.62 | 83.84 | 82.95 | 107.36 | 109.69 | 100.13 | 99.87 | 101.99 | 94.70 | 102.30 | 101.01 | |
| **aCSF** | 67.40 | 131.51 | 100.27 | 103.11 | 78.15 | 90.36 | 100.11 | 97.85 | 93.50 | 95.54 | 101.29 | 93.35 | 100.46 |
| **KCl** | 101.92 | 118.60 | 115.86 | 98.86 | 87.17 | 71.69 | 92.45 | 89.53 | 93.38 | 89.43 | 97.34 | | |
| **aCSF+zoniporide** | 94.67 | 92.22 | 91.27 | 103.30 | 89.62 | 82.64 | 71.69 | 89.01 | 95.28 | 94.59 | 99.39 | 95.20 | 76.68 |
| **KCl+zoniporide** | 94.55 | 91.92 | 83.71 | 99.62 | 88.68 | 79.88 | 76.64 | 85.59 | 100.78 | 76.82 | 91.90 | 91.90 | 97.10 |

## Figure 3C.

**During pulse: 0-5 min**

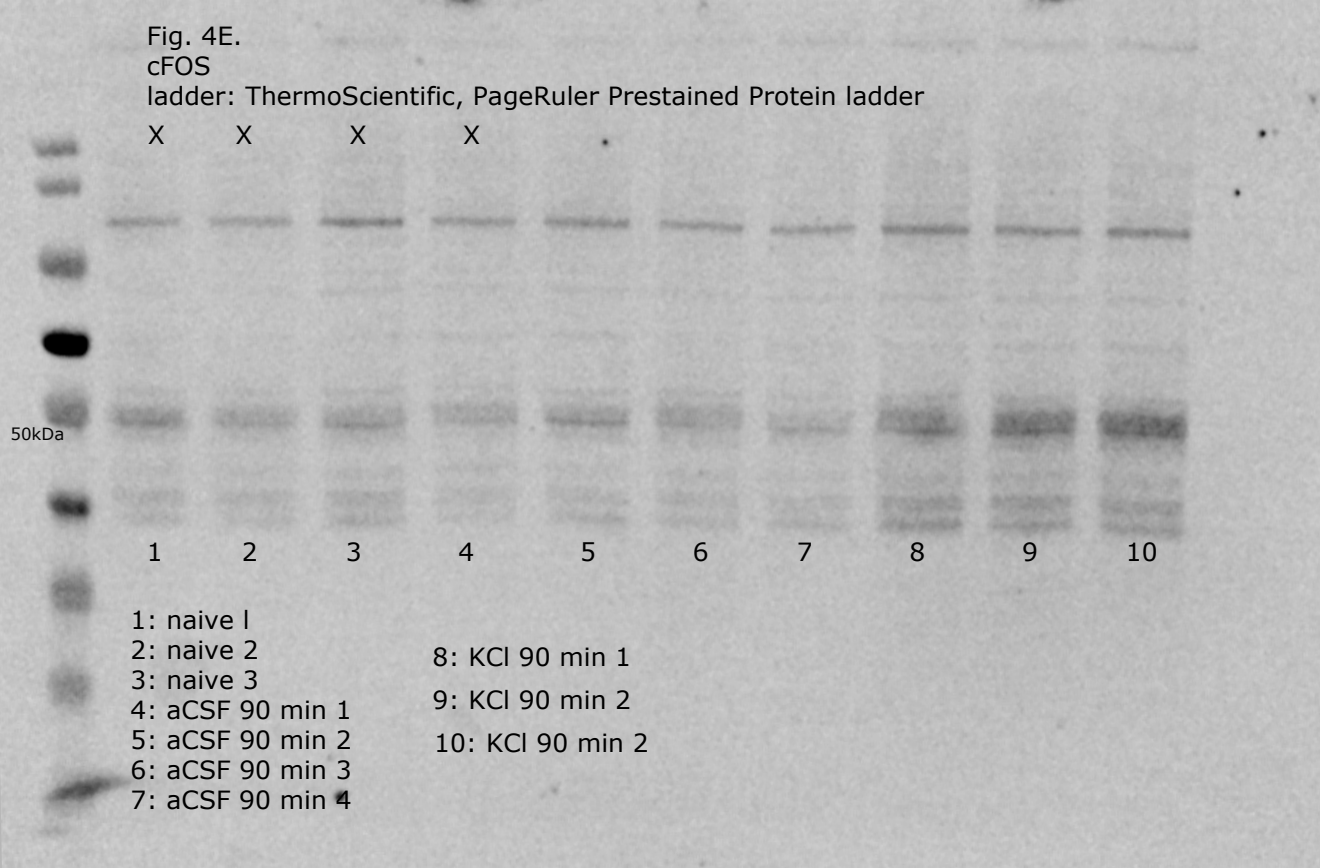
| | | % of WT naïve ± SEM | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **wild-type naïve** | | 84.86 | 102.52 | 112.62 | 97.34 | 107.87 | 94.79 | 111.55 | 97.98 | 90.48 | | | | |
| **empty vector control** | **media** | 97.40 | 105.32 | 106.05 | 101.21 | 70.10 | 122.03 | 138.57 | 109.64 | 111.43 | | | | |
| | **aCSF** | 114.20 | 106.41 | 125.04 | 133.41 | 106.42 | 145.64 | 137.14 | 122.38 | 134.40 | | | | |
| | **KCl** | 145.86 | 128.33 | 167.05 | 207.87 | 132.81 | 180.39 | 179.52 | 187.62 | 189.88 | | | | |
| ***SLC9A1* sgRNA** | **media** | 103.37 | 105.32 | 88.76 | 98.01 | 81.94 | 72.32 | 137.58 | 132.47 | 128.33 | 137.53 | 149.15 | 164.40 | 124.40 |
| | **aCSF** | 139.65 | 136.97 | 135.88 | 149.51 | 147.20 | 141.84 | 150.61 | 104.96 | 140.80 | 64.89 | 171.43 | 122.74 | 147.26 |
| | **KCl** | 227.80 | 217.94 | 190.42 | 214.53 | 225.97 | 200.77 | 126.87 | 160.96 | 220.10 | 308.11 | 230.71 | 241.19 | 217.50 |

**Figure 3D.**

**Post pulse: 6-30 min**

| | | % of WT naïve ± SEM | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **empty vector control** | **aCSF** | 86.26 | 95.25 | 98.53 | 95.38 | 100.18 | 99.58 | 104.02 | 86.37 | 88.86 | | | | |
| | **KCl** | 85.54 | 78.86 | 94.59 | 81.38 | 102.72 | 87.74 | 100.26 | 92.35 | 97.25 | | | | |
| ***SLC9A1* sgRNA** | **aCSF** | 131.03 | 119.46 | 110.21 | 125.10 | 117.62 | 119.96 | 111.28 | 95.70 | 96.78 | 101.25 | 100.51 | 106.34 | 92.13 |
| | **KCl** | 121.12 | 120.33 | 114.38 | 115.23 | 108.22 | 117.85 | 95.25 | 95.04 | 85.82 | 86.28 | 97.01 | 101.44 | 97.88 |

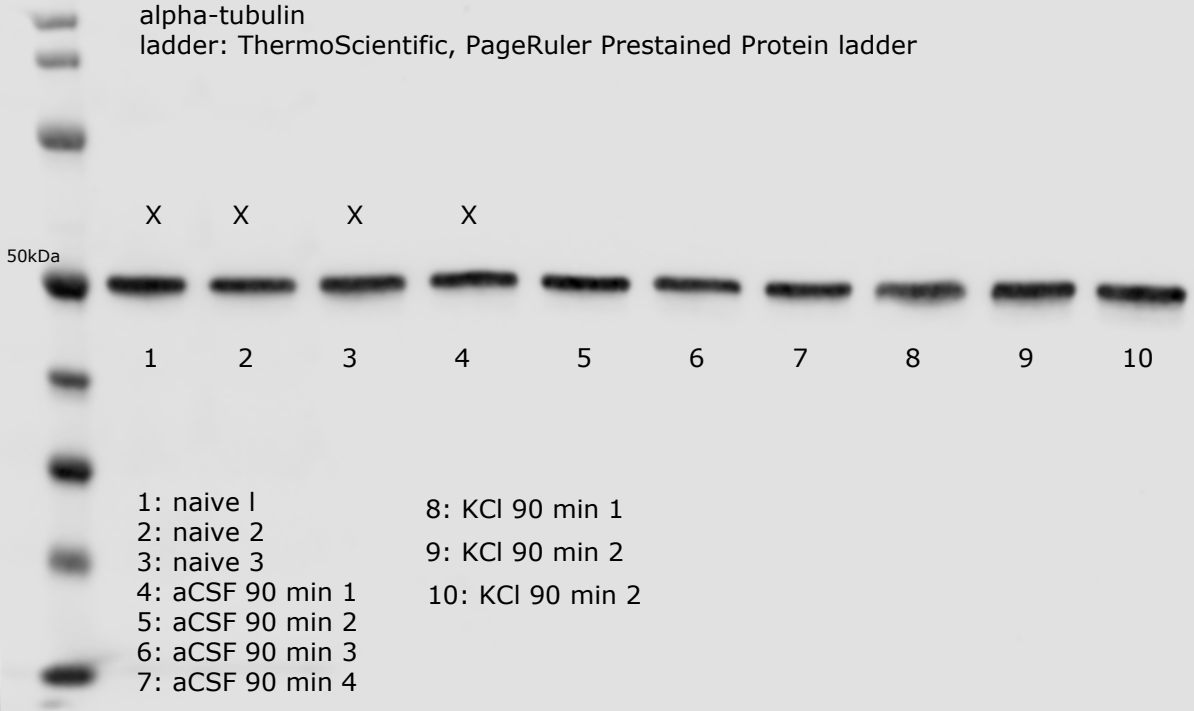
Fig. 4E.
cFOS
ladder: ThermoScientific, PageRuler Prestained Protein ladder




1: naive l
2: naive 2
3: naive 3
4: aCSF 90 min 1
5: aCSF 90 min 2
6: aCSF 90 min 3
7: aCSF 90 min 4

8: KCl 90 min 1
9: KCl 90 min 2
10: KCl 90 min 2

Fig. 4E.
alpha-tubulin
ladder: ThermoScientific, PageRuler Prestained Protein ladder




1: naive l
2: naive 2
3: naive 3
4: aCSF 90 min 1
5: aCSF 90 min 2
6: aCSF 90 min 3
7: aCSF 90 min 4

8: KCl 90 min 1
9: KCl 90 min 2
10: KCl 90 min 2

## Figure 5B.

| | saline+KCl+sumatriptan | | | | | zoniporide+KCl+sumatriptan | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BL** | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 7.13 | 8.00 | 7.39 | 8.00 | 8.00 | 8.00 | 8.00 |
| **pBL** | 1.06 | 3.32 | 2.34 | 1.49 | 1.00 | 2.20 | 2.20 | 8.00 | 5.19 | 8.00 | 2.10 | 8.00 | 2.40 | 2.40 | 3.07 |
| **30** | 4.09 | 1.00 | 1.49 | 1.00 | 8.00 | 2.02 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 |
| **60** | 1.80 | 1.28 | 1.00 | 1.00 | 8.00 | 1.00 | 8.00 | 8.00 | 1.49 | 8.00 | 1.00 | 2.77 | 5.59 | 8.00 | 8.00 |
| **90** | 1.80 | 8.00 | 1.00 | 1.00 | 8.00 | 1.00 | 8.00 | 8.00 | 1.06 | 8.00 | 8.00 | 2.77 | 8.00 | 8.00 | 8.00 |
| **120** | 1.00 | 8.00 | 1.00 | 1.00 | 8.00 | 1.49 | 4.95 | 8.00 | 8.00 | 8.00 | 4.88 | 2.57 | 8.00 | 8.00 | 1.71 |
| **180** | 8.00 | 8.00 | 1.00 | 1.00 | 8.00 | 1.49 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 3.41 | 8.00 | 8.00 | 2.15 |

## Figure 5E.

| | aCSF | | | | | KCl | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **BL** | 8.00 | 8.00 | 8.00 | 8.00 | 6.70 | 6.74 | 6.69 | 6.74 | 8.00 | 6.74 | 6.74 |
| **30** | 5.94 | 8.00 | 8.00 | 6.42 | 2.47 | 2.28 | 1.00 | 1.00 | 5.61 | 1.00 | 3.70 |
| **60** | 4.35 | 8.00 | 8.00 | 8.00 | 2.87 | 1.00 | 1.00 | 1.00 | 4.79 | 1.00 | 2.87 |
| **90** | 3.88 | 3.34 | 8.00 | 8.00 | 2.61 | 1.00 | 1.00 | 1.00 | 2.87 | 1.00 | 1.26 |
| **120** | 3.73 | 1.00 | 7.86 | 8.00 | 3.37 | 2.90 | 1.00 | 1.00 | 1.87 | 3.70 | 2.00 |
| **180** | 2.47 | 1.00 | 8.00 | 8.00 | 3.37 | 1.00 | 1.00 | 2.87 | 1.00 | 1.00 | 1.26 |

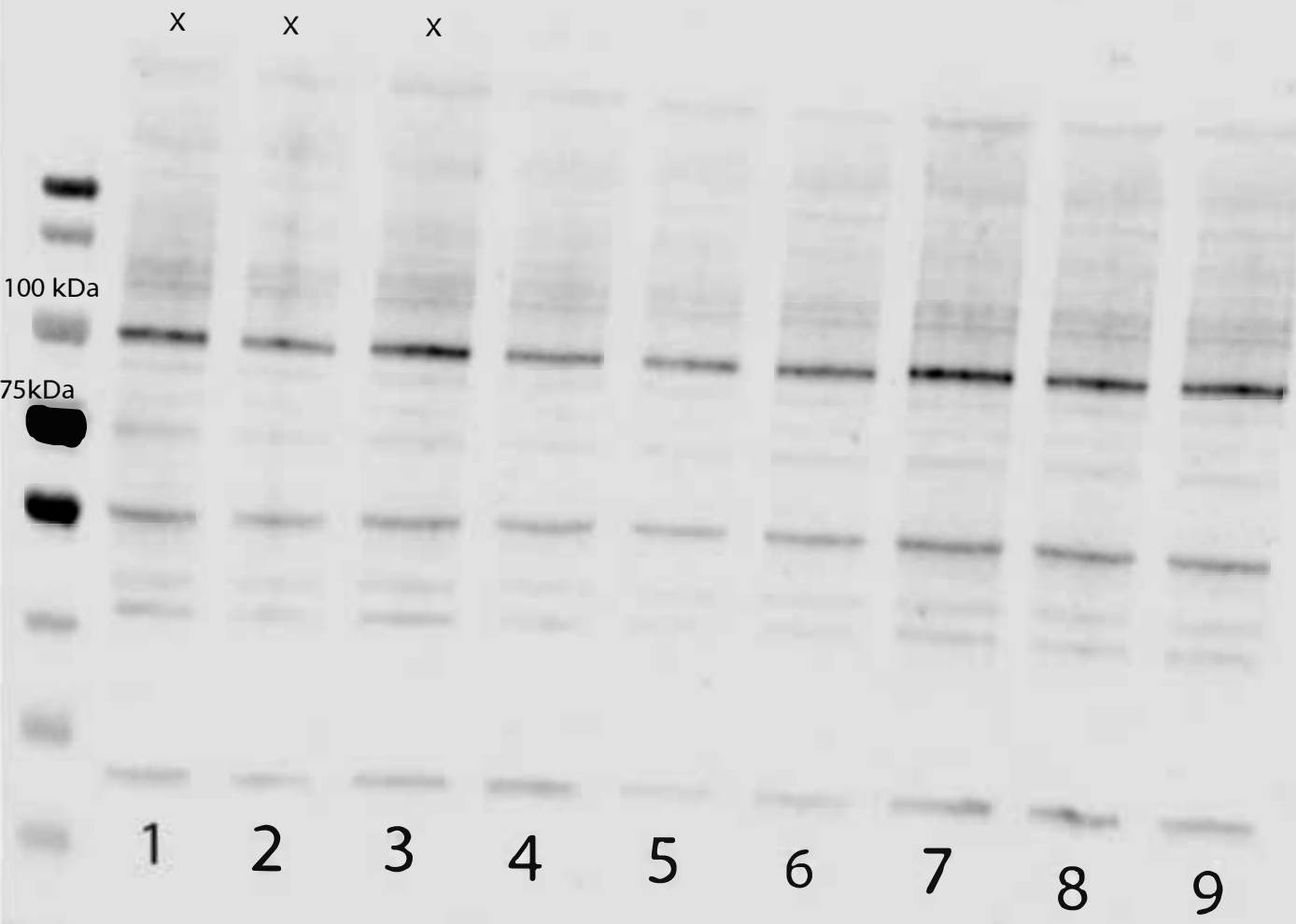
| | aCSF+zoniporide | | | | | | KCl+zoniporide | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BL** | 7.13 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 2.00 | 8.00 | 8.00 | 8.00 |
| **30** | 3.26 | 5.58 | 2.20 | 2.34 | 1.06 | 6.34 | 8.00 | 1.00 | 1.40 | 7.13 | 1.89 | 3.31 |
| **60** | 2.44 | 2.44 | 1.32 | 2.05 | 1.00 | 2.66 | 8.00 | 1.68 | 1.00 | 1.28 | 1.49 | 2.34 |
| **90** | 2.20 | 1.94 | 1.00 | 1.32 | 1.00 | 1.80 | 1.32 | 1.32 | 1.00 | 1.45 | 1.00 | 1.00 |
| **120** | 5.58 | 1.32 | 1.06 | 1.00 | 1.66 | 1.11 | 1.82 | 1.70 | 1.70 | 1.49 | 1.43 | 2.05 |
| **180** | 1.32 | 1.06 | 1.55 | 1.06 | 1.06 | 1.53 | 2.62 | 1.80 | 1.32 | 1.00 | 1.55 | 1.32 |

## Figure 5F.

| | AUC (mean ± SEM) |
|---|---|
| aCSF | 28.52 ± 4.05 |
| KCl | 11.96 ± 2.02 |
| aCSF+ zoniporide | 13.51 ± 2.04 |
| KCl + zoniporide | 13.6 ± 3.13 |

# NHE1, cortex, Figure 6A

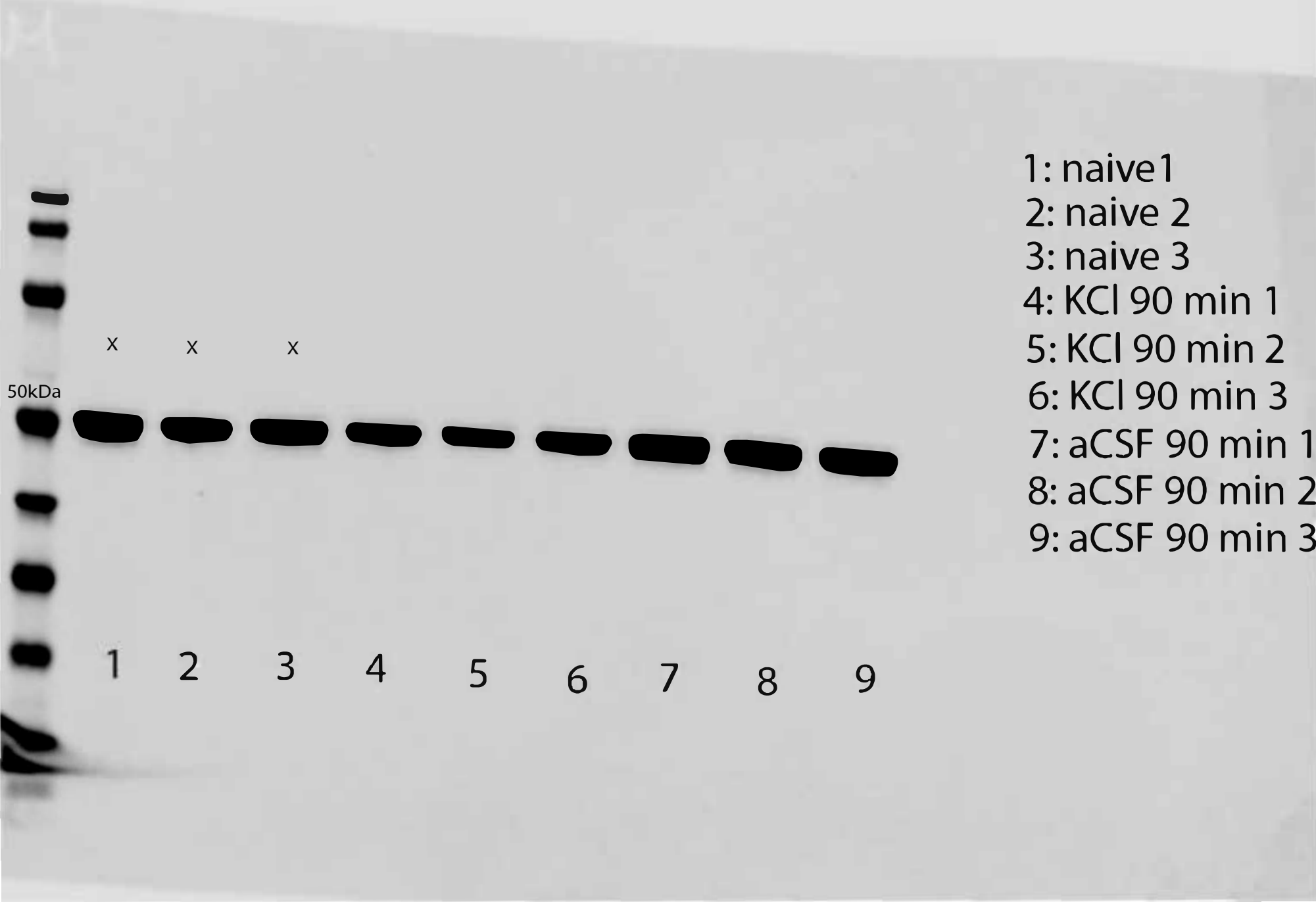
ladder: ThermoScientific, PageRuler Prestained Protein ladder




1: naive 1
2: naive 2
3: naive 3
4: KC190 min 1
5: KC190 min 2
6: KC190 min 3
7: aCSF 90 min 1
8: aCSF 90 min 2
9: aCSF 90 min 3

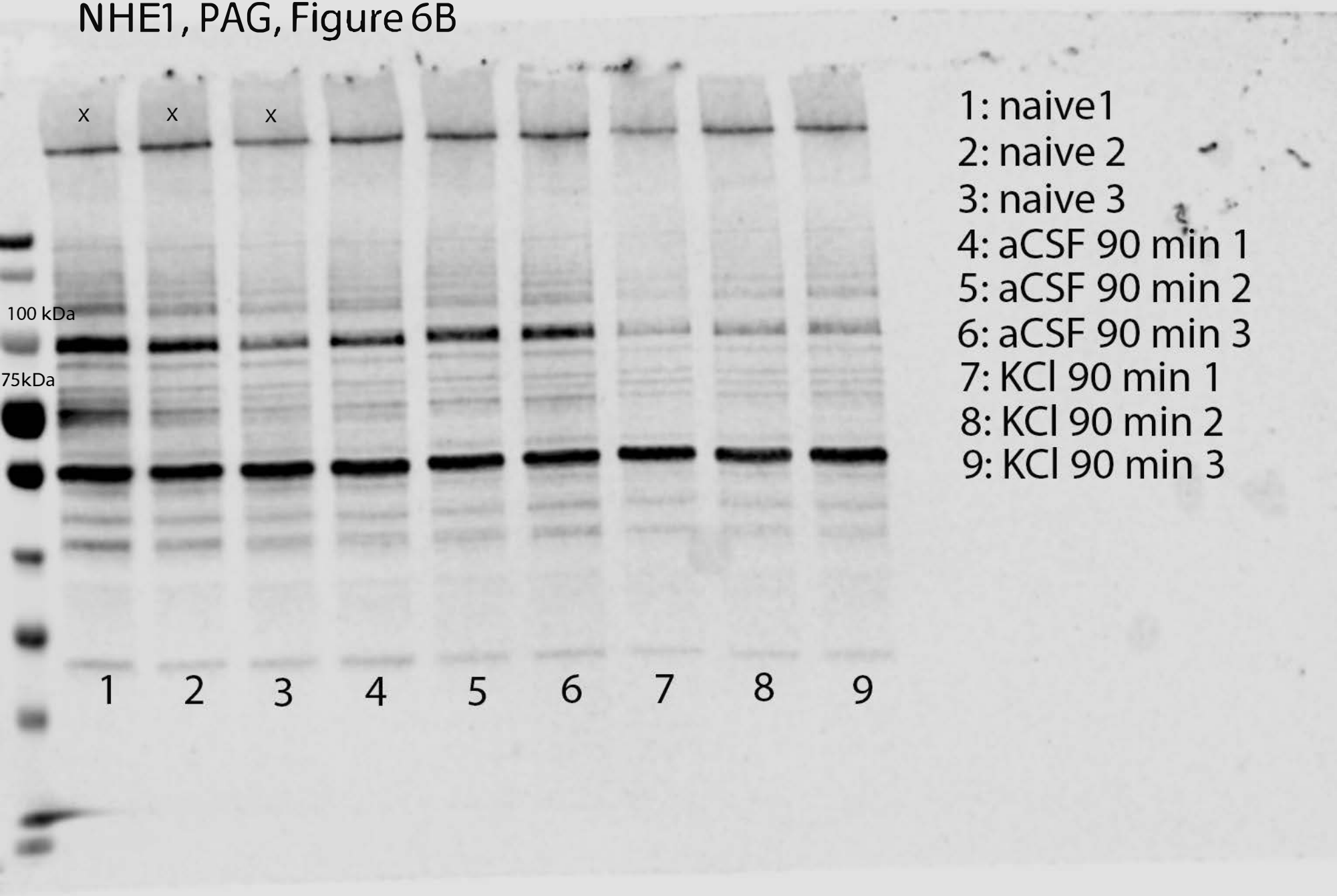
# alfa-tubulin, cortex, Figure 6A

ladder: ThermoScientific, PageRuler Prestained Protein ladder

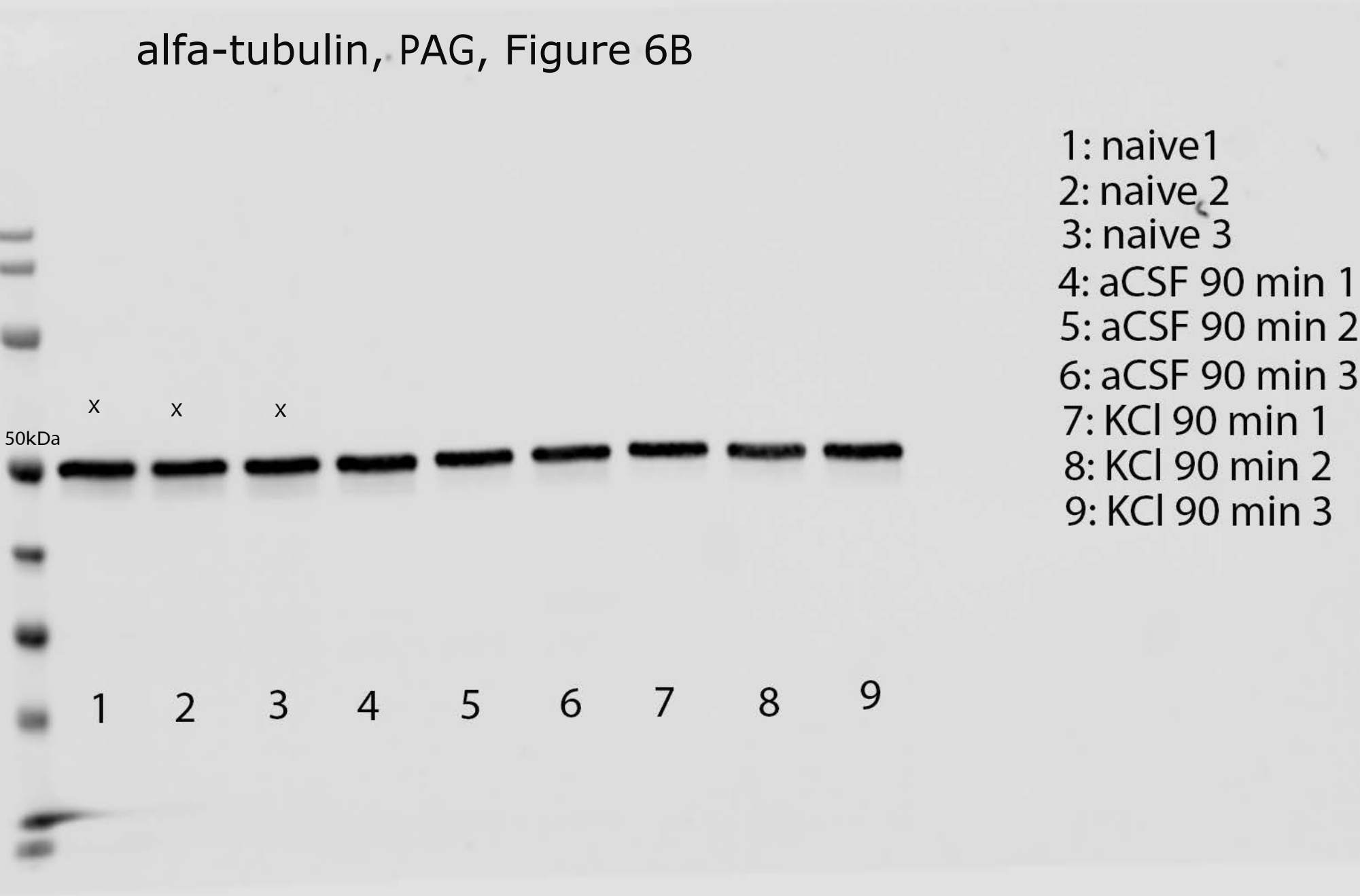


ladder: ThermoScientific, PageRuler Prestained Protein ladder

# NHE1, PAG, Figure 6B

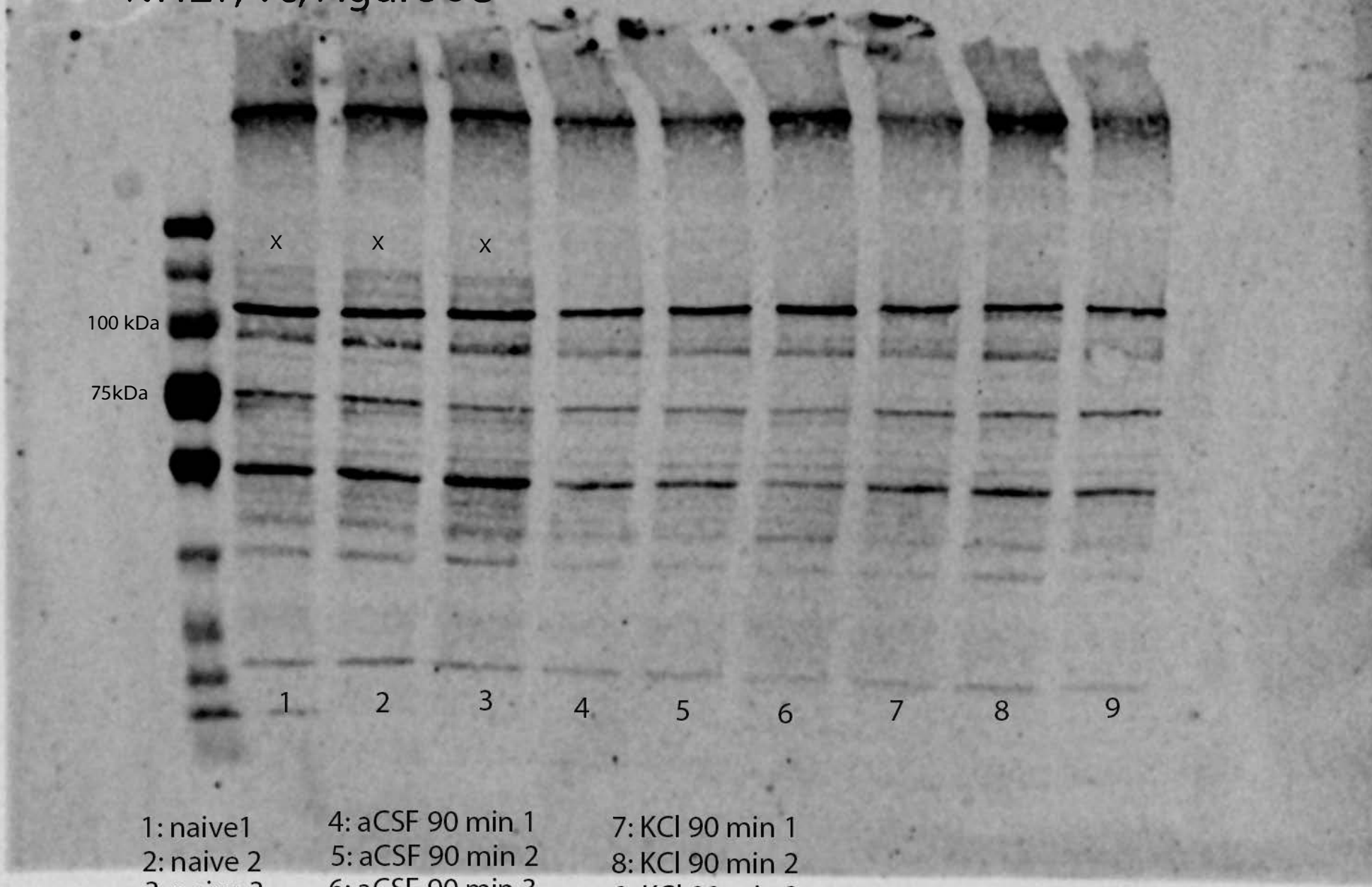


ladder: ThermoScientific, PageRuler Prestained Protein ladder



ladder: ThermoScientific, PageRuler Prestained Protein ladder

# NHE1, Vc, Figure 6C



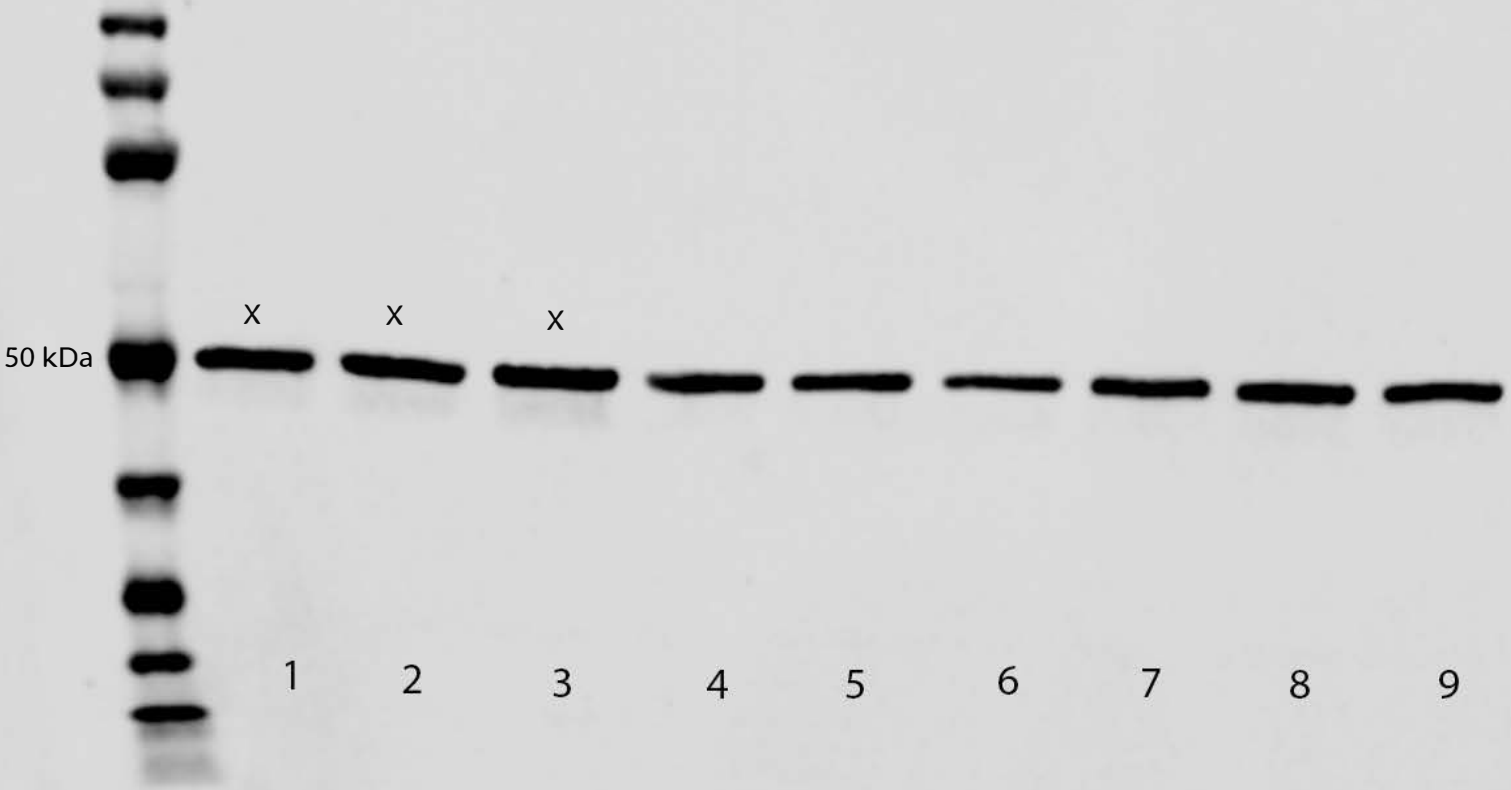

1: naive1
2: naive 2
3: naive 3

4: aCSF 90 min 1
5: aCSF 90 min 2
6: aCSF 90 min 3

7: KCl 90 min 1
8: KCl 90 min 2
9: KCl 90 min 3

ladder: ThermoScientific, PageRuler Prestained Protein ladder

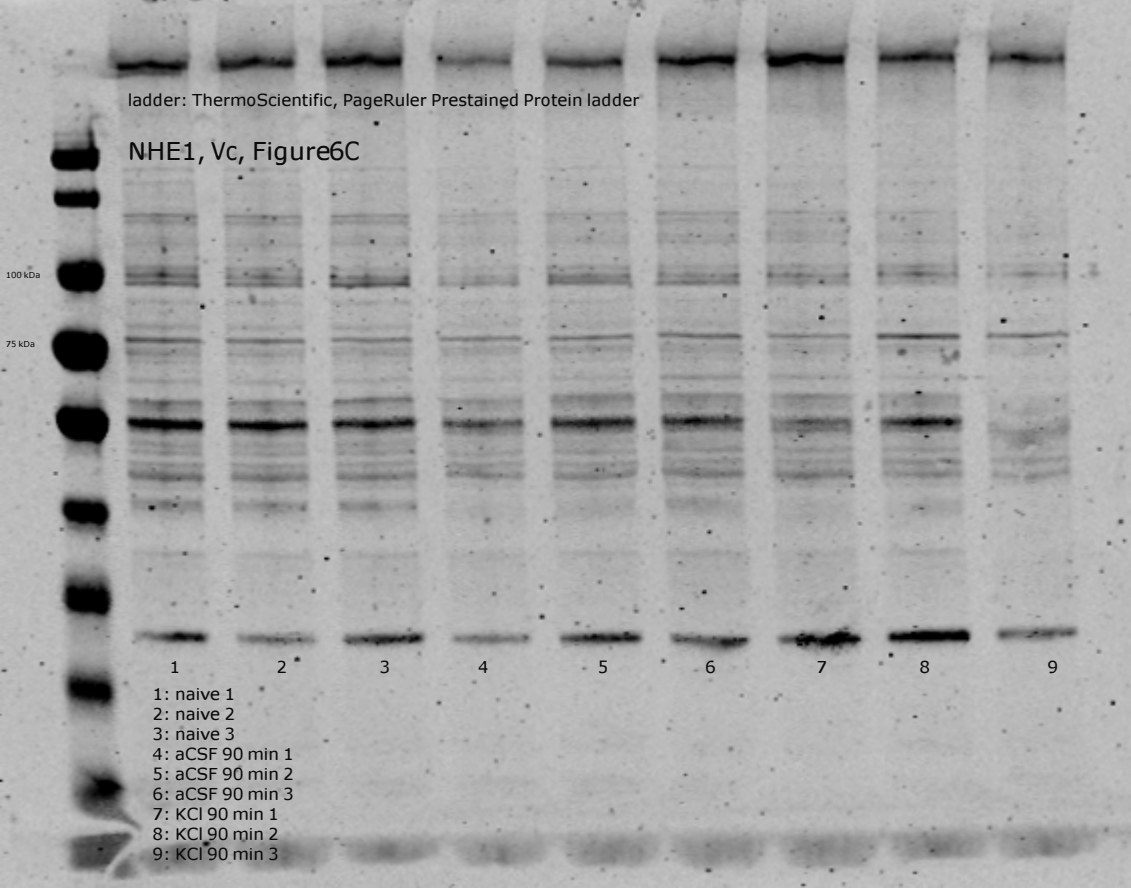
# alfa-tubulin, Vc, Figure 6C




1: naive1
2: naive 2
3: naive 3

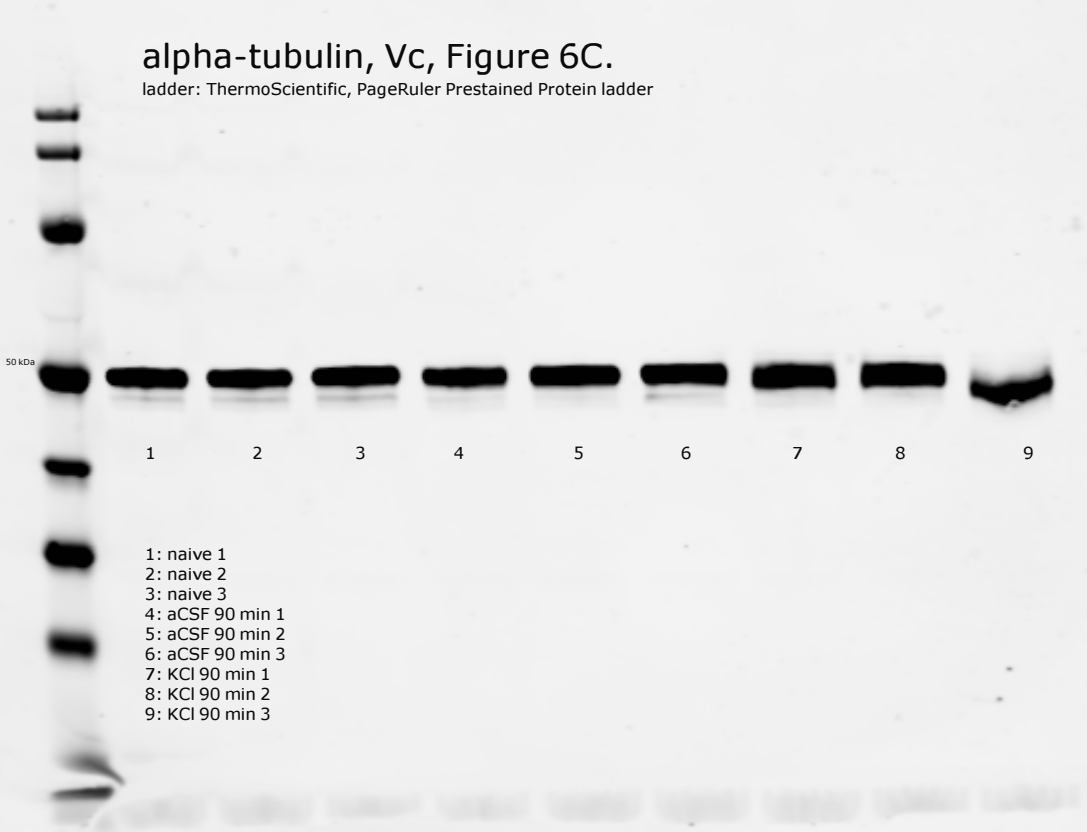
4: aCSF 90 min 1
5: aCSF 90 min 2
6: aCSF 90 min 3

7: KCl 90 min 1
8: KCl 90 min 2
9: KCl 90 min 3


ladder: ThermoScientific, PageRuler Prestained Protein ladder
NHE1, Vc, Figure6C
100 kDa
75 kDa
1
2
3
4
5
6
7
8
9
1: naive 1
2: naive 2
3: naive 3
4: aCSF 90 min 1
5: aCSF 90 min 2
6: aCSF 90 min 3
7: KCl 90 min 1
8: KCl 90 min 2
9: KCl 90 min 3

# alpha-tubulin, Vc, Figure 6C.

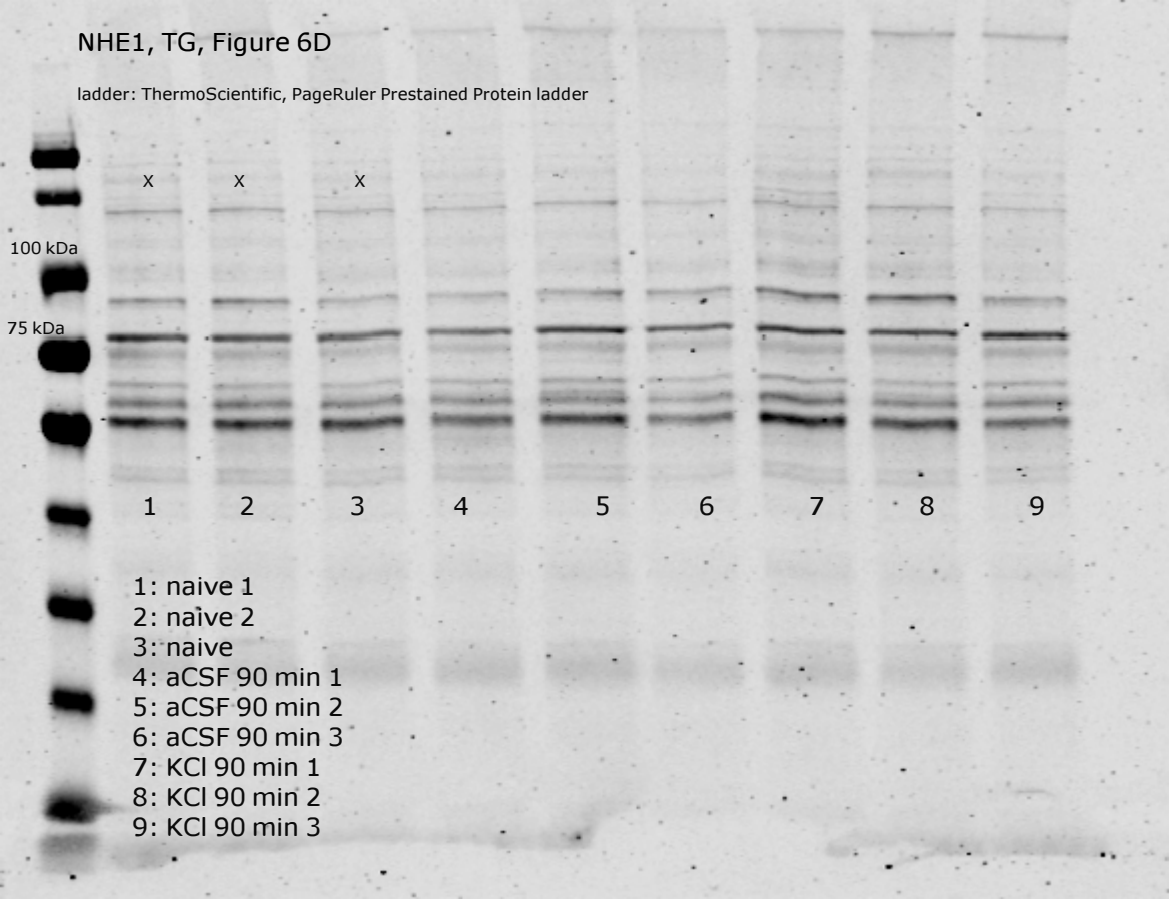
ladder: ThermoScientific, PageRuler Prestained Protein ladder




1: naive 1
2: naive 2
3: naive 3
4: aCSF 90 min 1
5: aCSF 90 min 2
6: aCSF 90 min 3
7: KCl 90 min 1
8: KCl 90 min 2
9: KCl 90 min 3

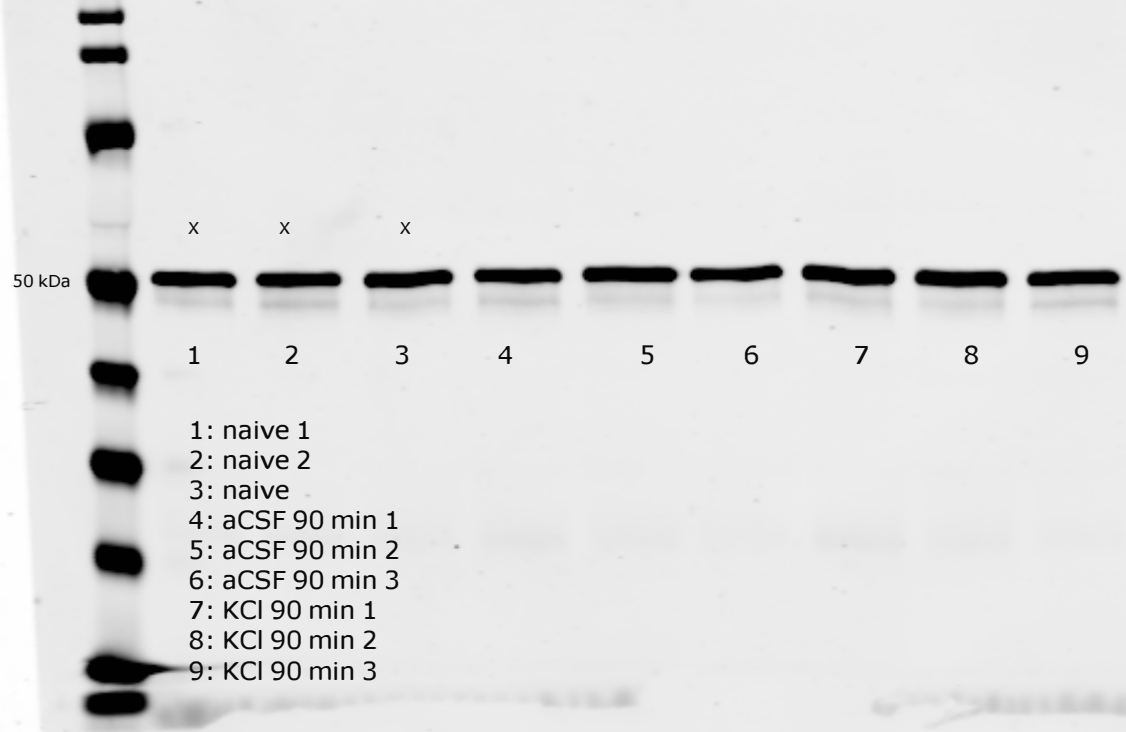
NHE1, TG, Figure 6D

ladder: ThermoScientific, PageRuler Prestained Protein ladder



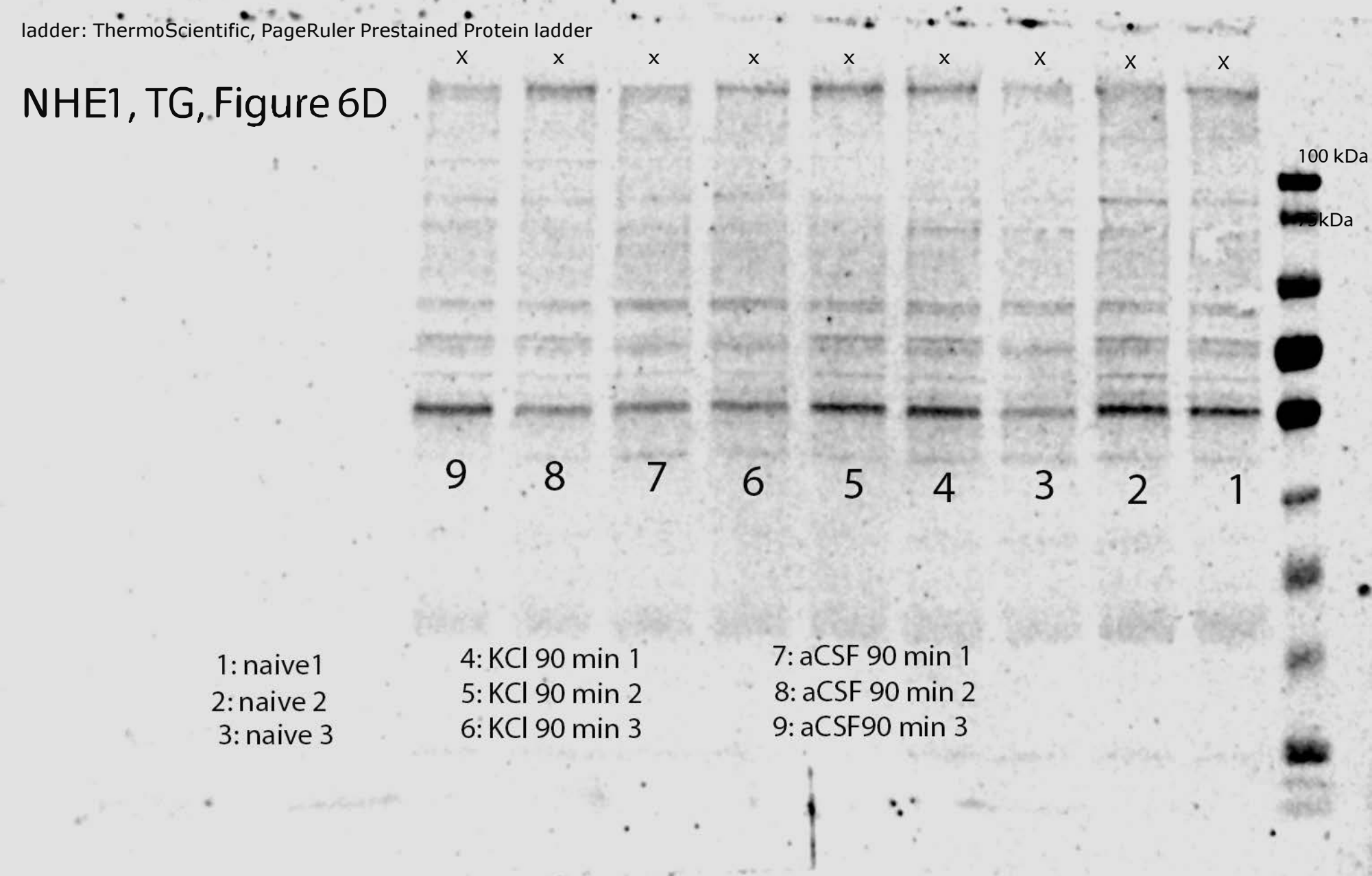
alpha-tubulin, TG, Figure 6D

ladder: ThermoScientific, PageRuler Prestained Protein ladder



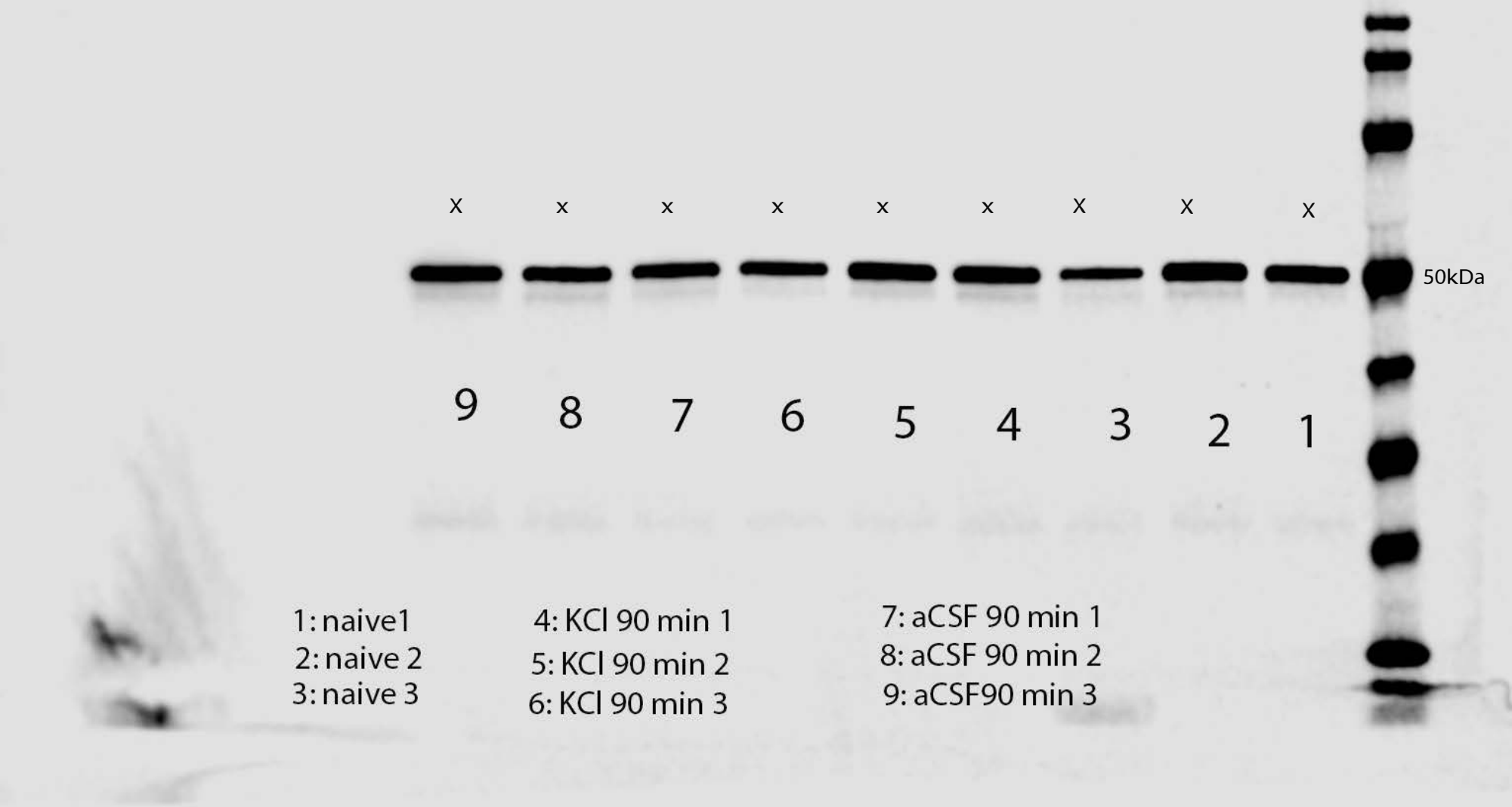
ladder: ThermoScientific, PageRuler Prestained Protein ladder

# NHE1, TG, Figure 6D



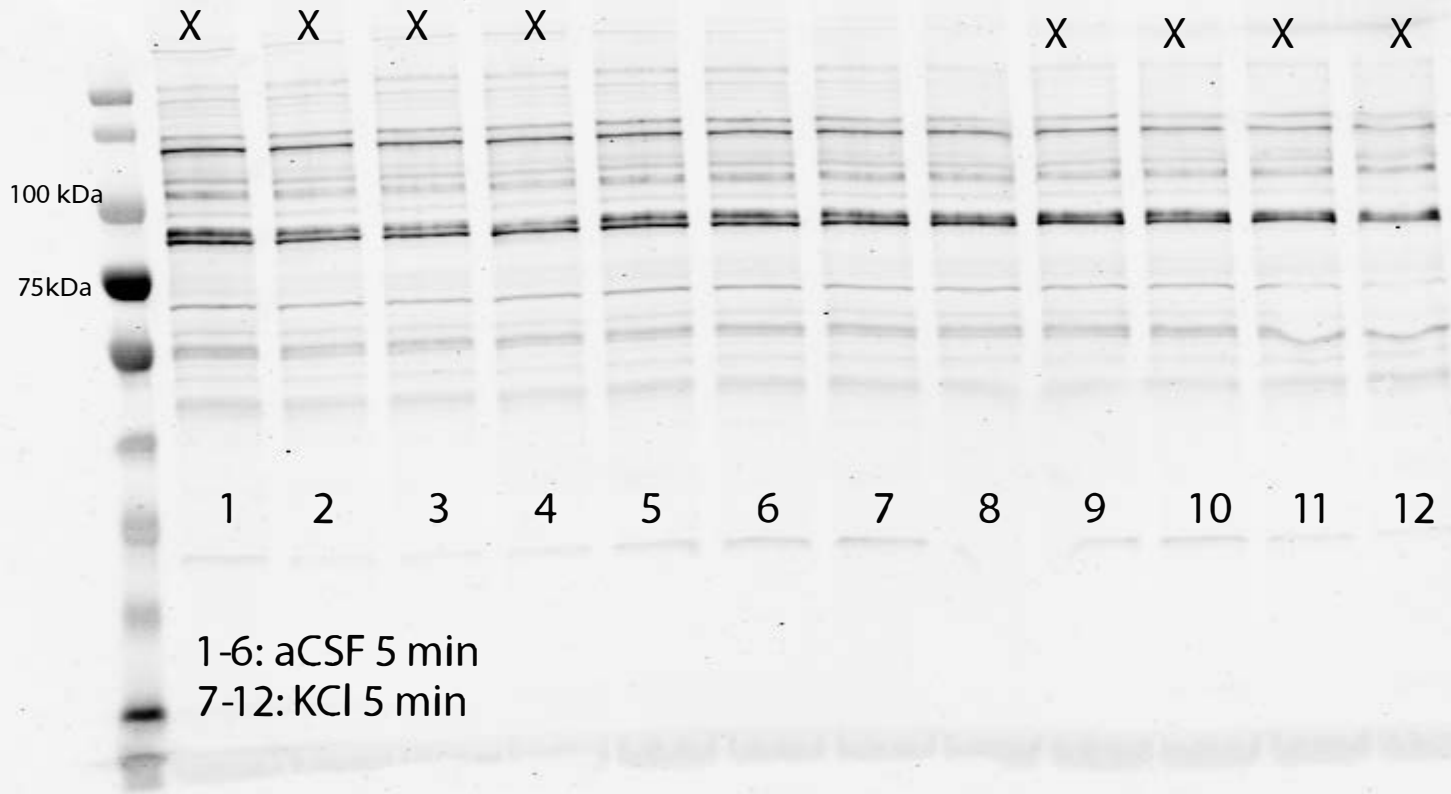
ladder: ThermoScientific, PageRuler Prestained Protein ladder

# alfa-tubulin, TG, Figure 6D



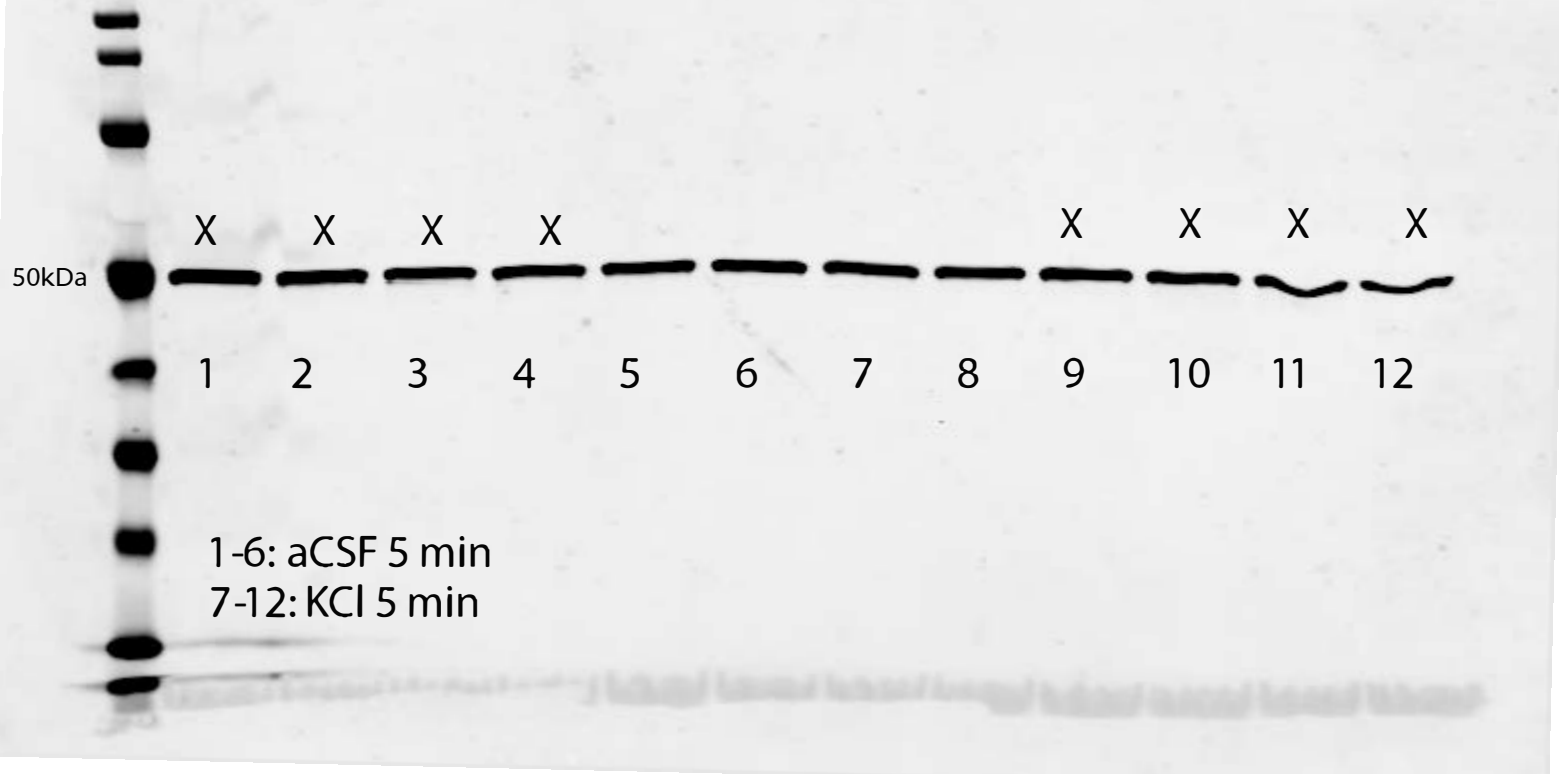
# Figure 7C. NHE1 in whole cell lystae

ladder: ThermoScientific, PageRuler Prestained Protein ladder



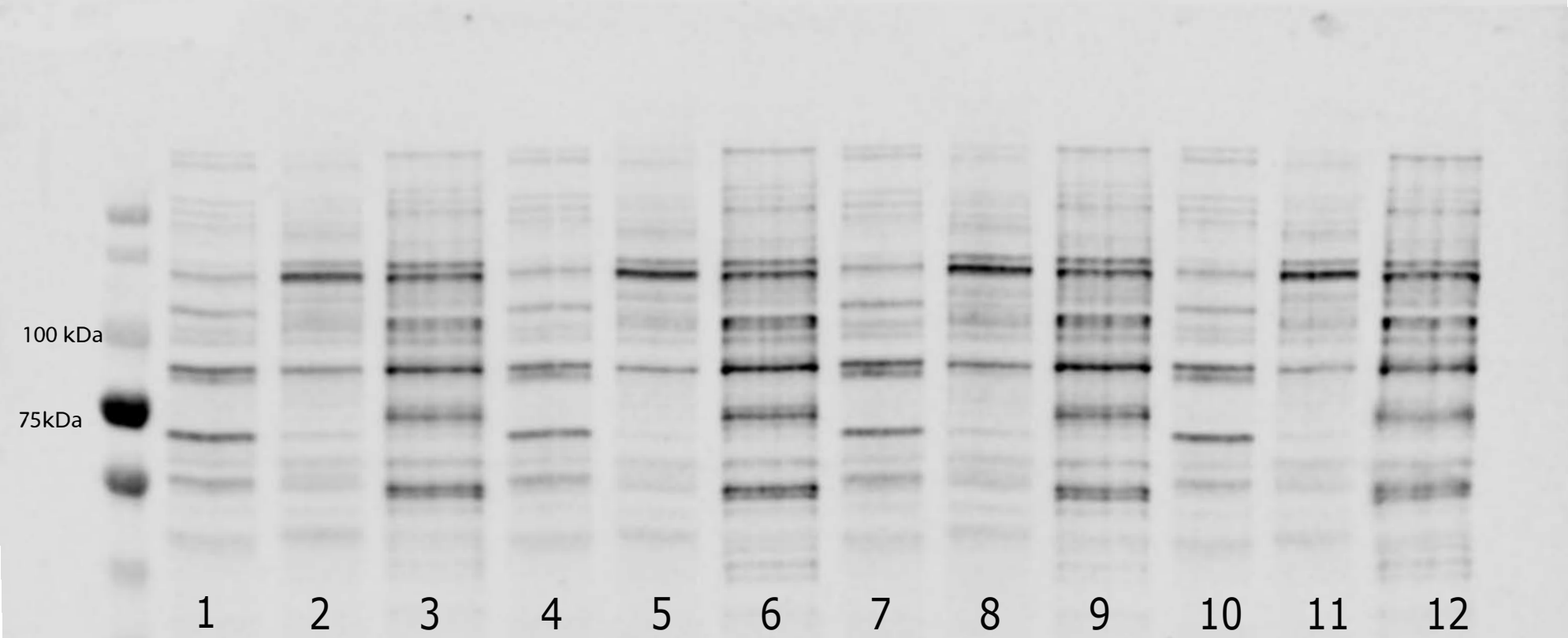
# Figure 7C. alpha-tubulin in whole cell lysate

ladder: ThermoScientific, PageRuler Prestained Protein ladder



# Figure 7B. NHE1

ladder: ThermoScientific, PageRuler Prestained Protein ladder

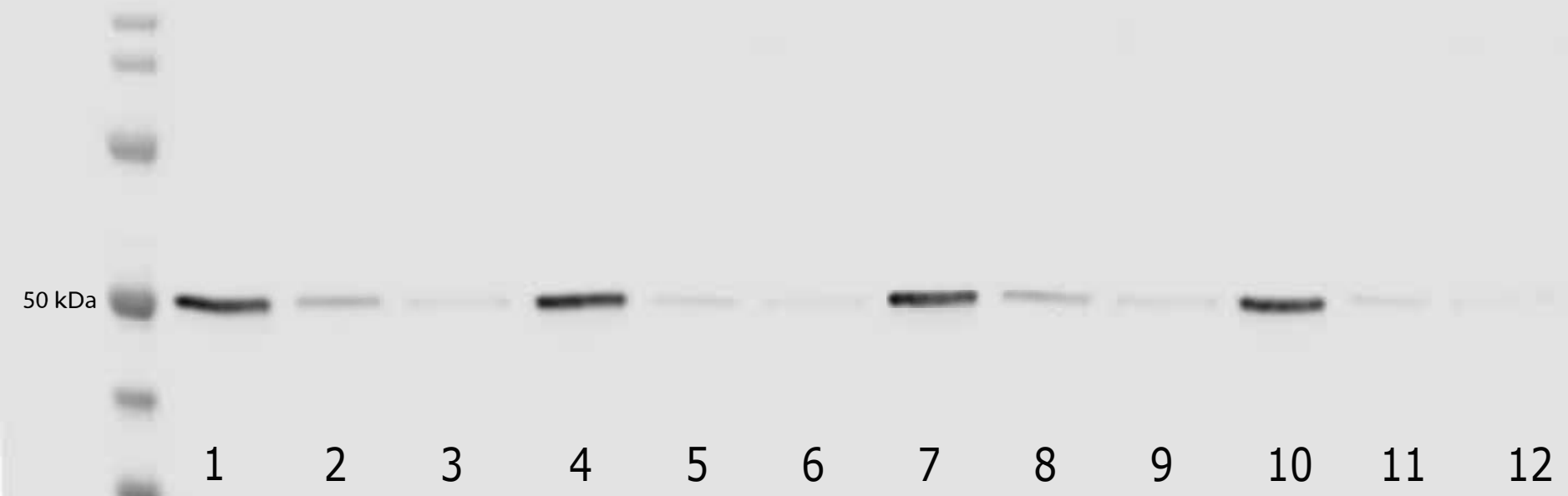



1st set:
1: aCSF 5 min cytosol fraction
2: aCSF 5 min membrane fraction
3: aCSF 5 min nuclear fraction
4: KCl 5 min cytosol fraction
5: KCl 5 min membrane fraction
6: KCl 5 min nuclear fraction

2nd set:
7: aCSF 5 min cytosol fraction
8: aCSF 5 min membrane fraction
9: aCSF 5 min nuclear fraction
10: KCl 5 min cytosol fraction
11: KCl 5 min membrane fraction
12: KCl 5 min nuclear fraction

# Figure 7B. alpha-tubulin

ladder: ThermoScientific, PageRuler Prestained Protein ladder

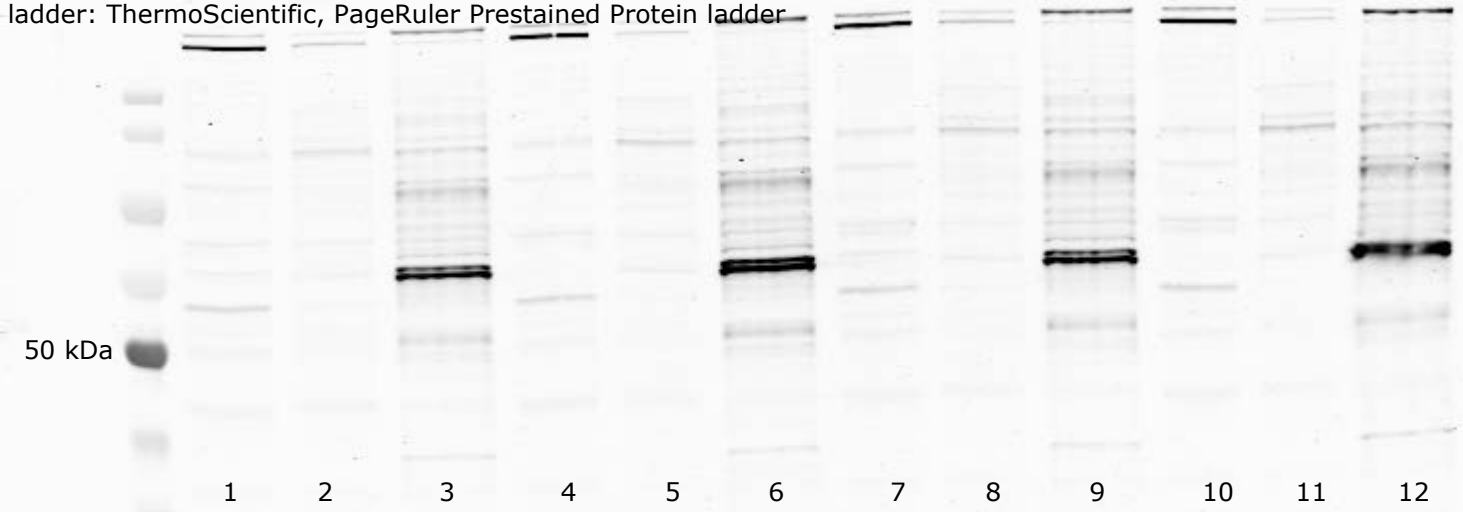



1st set:
1: aCSF 5 min cytosol fraction
2: aCSF 5 min membrane fraction
3: aCSF 5 min nuclear fraction
4: KCl 5 min cytosol fraction
5: KCl 5 min membrane fraction
6: KCl 5 min nuclear fraction

2nd set:
7: aCSF 5 min cytosol fraction
8: aCSF 5 min membrane fraction
9: aCSF 5 min nuclear fraction
10: KCl 5 min cytosol fraction
11: KCl 5 min membrane fraction
12: KCl 5 min nuclear fraction

# Figure 7B. lamin B

ladder: ThermoScientific, PageRuler Prestained Protein ladder

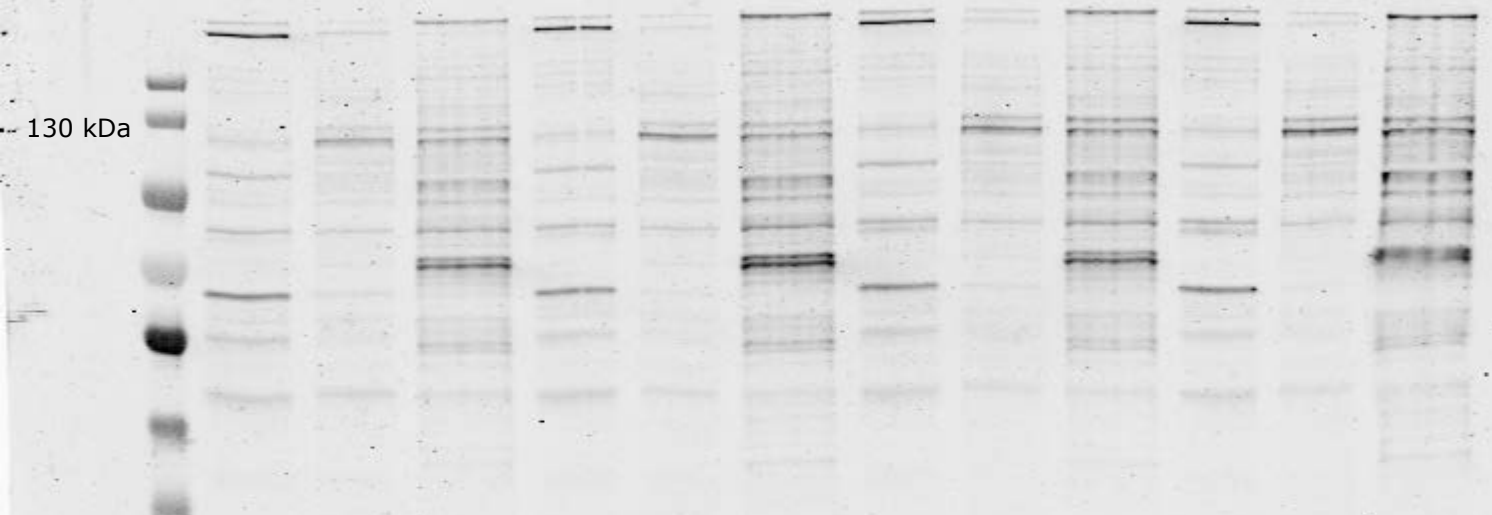



1st set:
1: aCSF 5 min cytosol
2: aCSF 5 min membrane
3: aCSF 5 min nuclear
4: KCl 5 min cytosol
5: KCl 5 min membrane
6: KCl 5 min nuclear

2nd set:
7: aCSF 5 min cytosol
8: aCSF 5 min membrane
9: aCSF 5 min nuclear
10: KCl 5 min cytosol
11: KCl 5 min membrane
12: KCl 5 min nuclear

# Figure 7B. PECAM

ladder: ThermoScientific, PageRuler Prestained Protein ladder

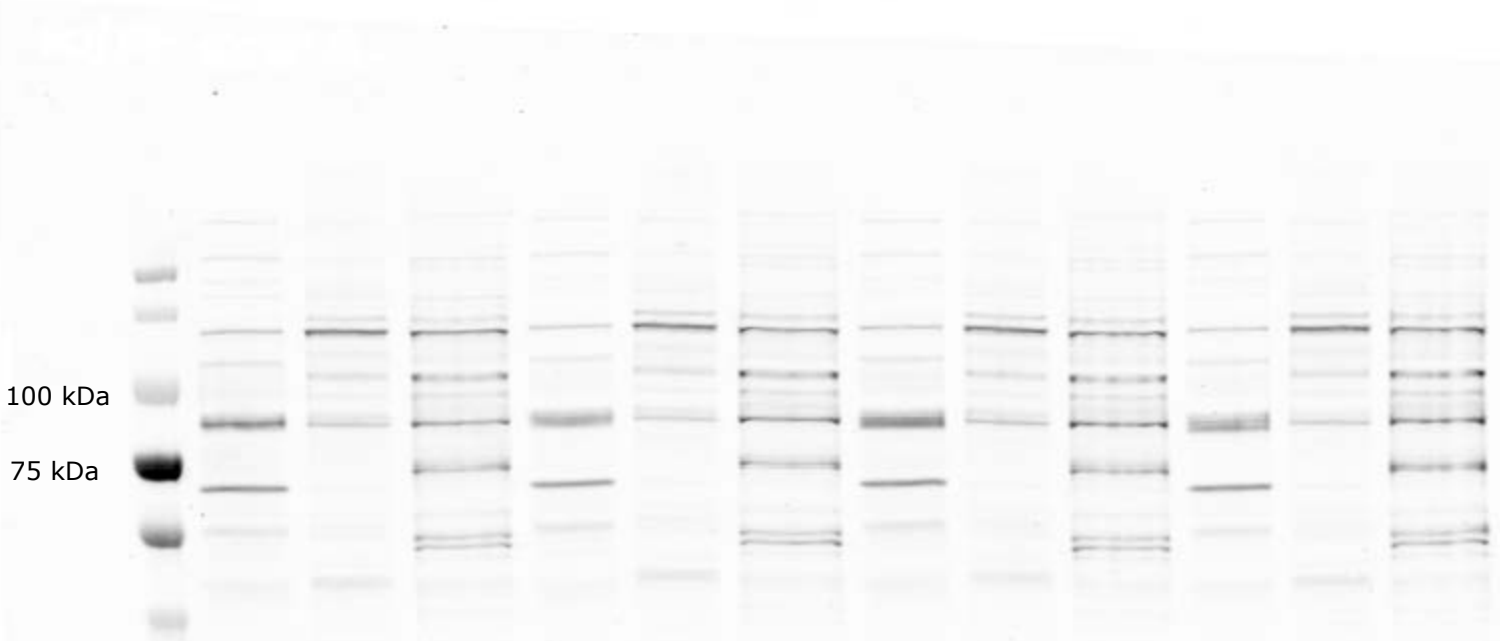



1st set:
1: aCSF 5 min cytosol
2: aCSF 5 min membrane
3: aCSF 5 min nuclear
4: KCl 5 min cytosol
5: KCl 5 min membrane
6: KCl 5 min nuclear

2nd set:
7: aCSF 5 min cytosol
8: aCSF 5 min membrane
9: aCSF 5 min nuclear
10: KCl 5 min cytosol
11: KCl 5 min membrane
12: KCl 5 min nuclear

# Figure 7B. NHE1

ladder: ThermoScientific, PageRuler Prestained Protein ladder

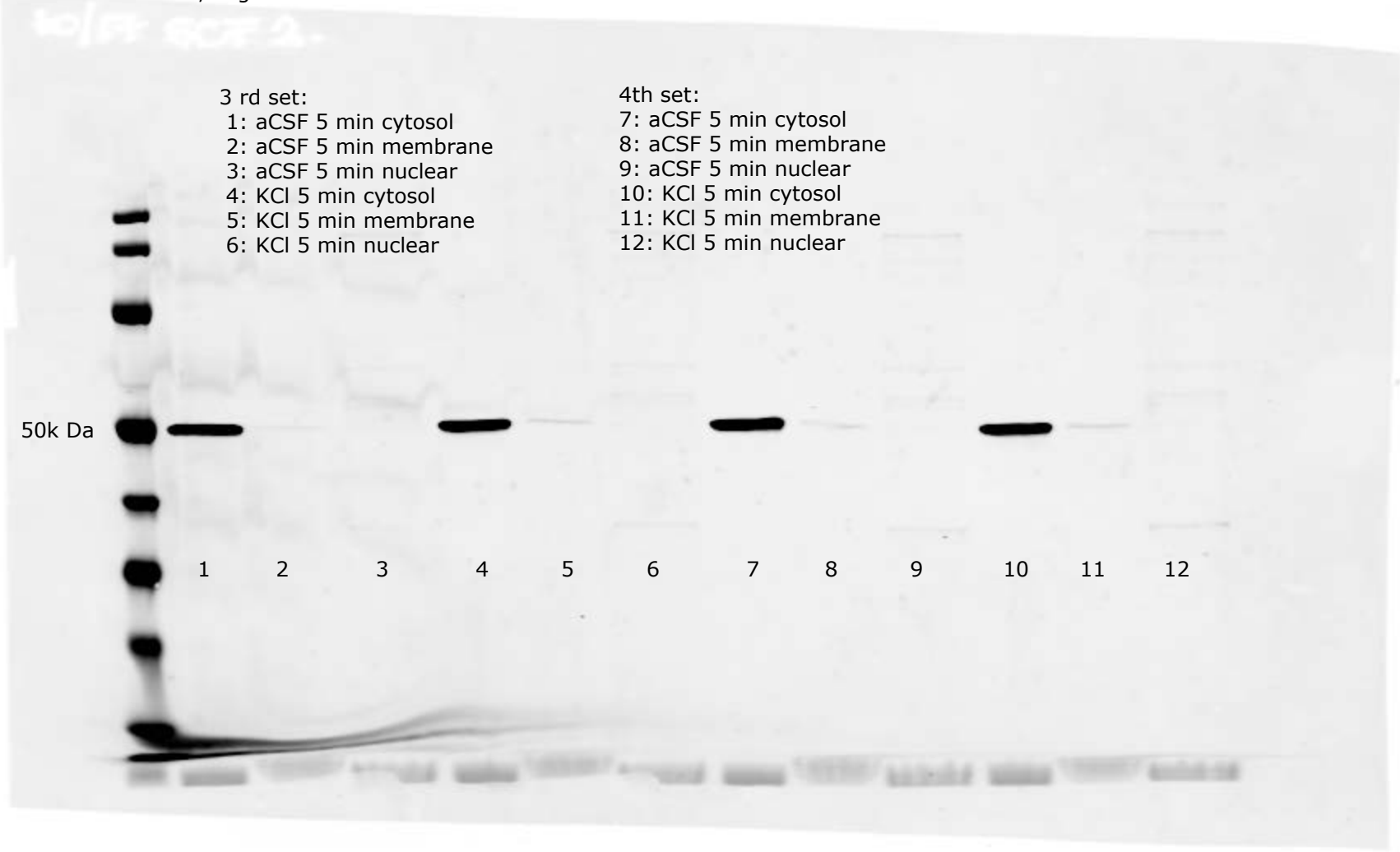



3 rd set:
1: aCSF 5 min cytosol
2: aCSF 5 min membrane
3: aCSF 5 min nuclear
4: KCl 5 min cytosol
5: KCl 5 min membrane
6: KCl 5 min nuclear

4th set:
7: aCSF 5 min cytosol
8: aCSF 5 min membrane
9: aCSF 5 min nuclear
10: KCl 5 min cytosol
11: KCl 5 min membrane
12: KCl 5 min nuclear

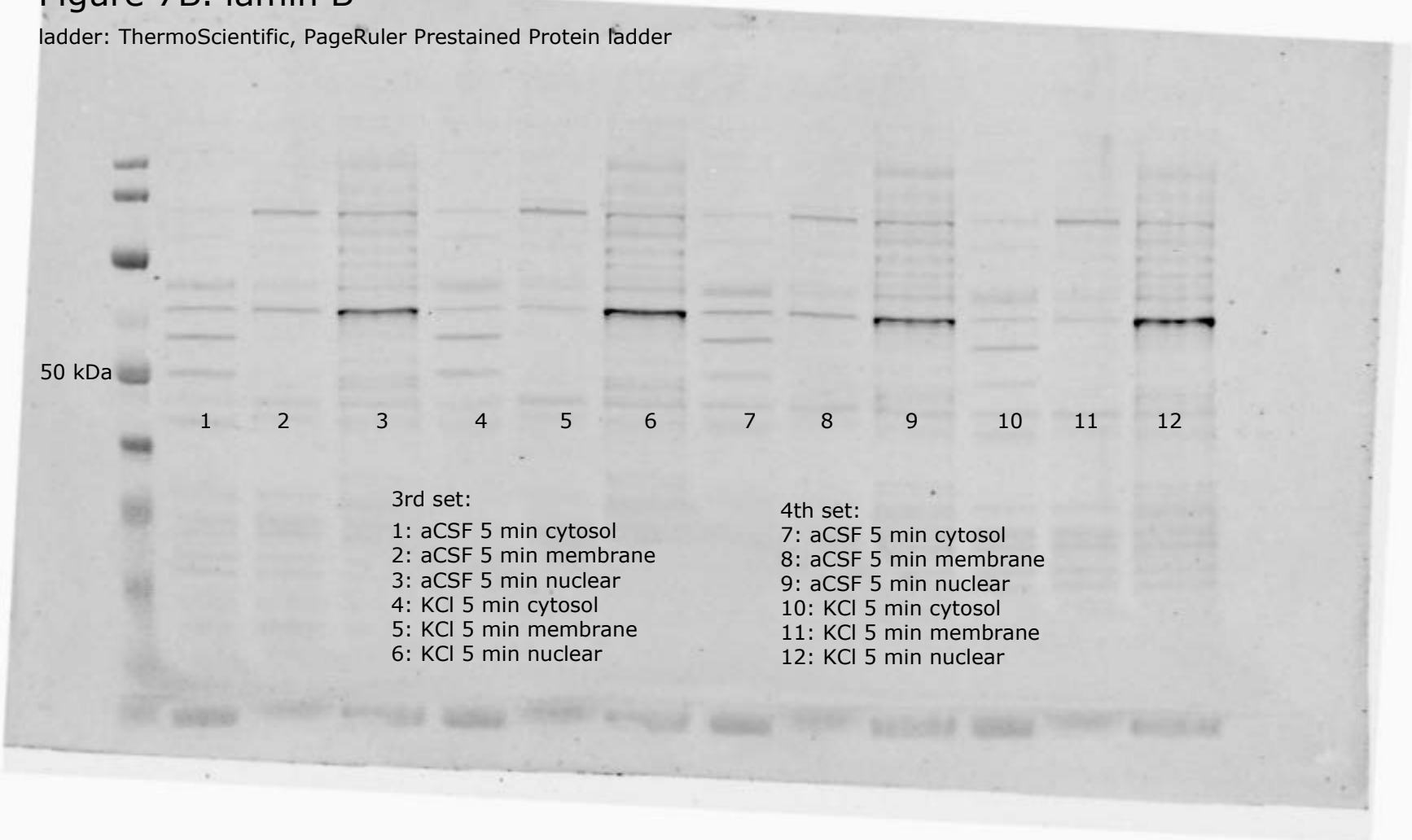
# Figure 7B. alpha-tubulin

ladder: ThermoScientific, PageRuler Prestained Protein ladder



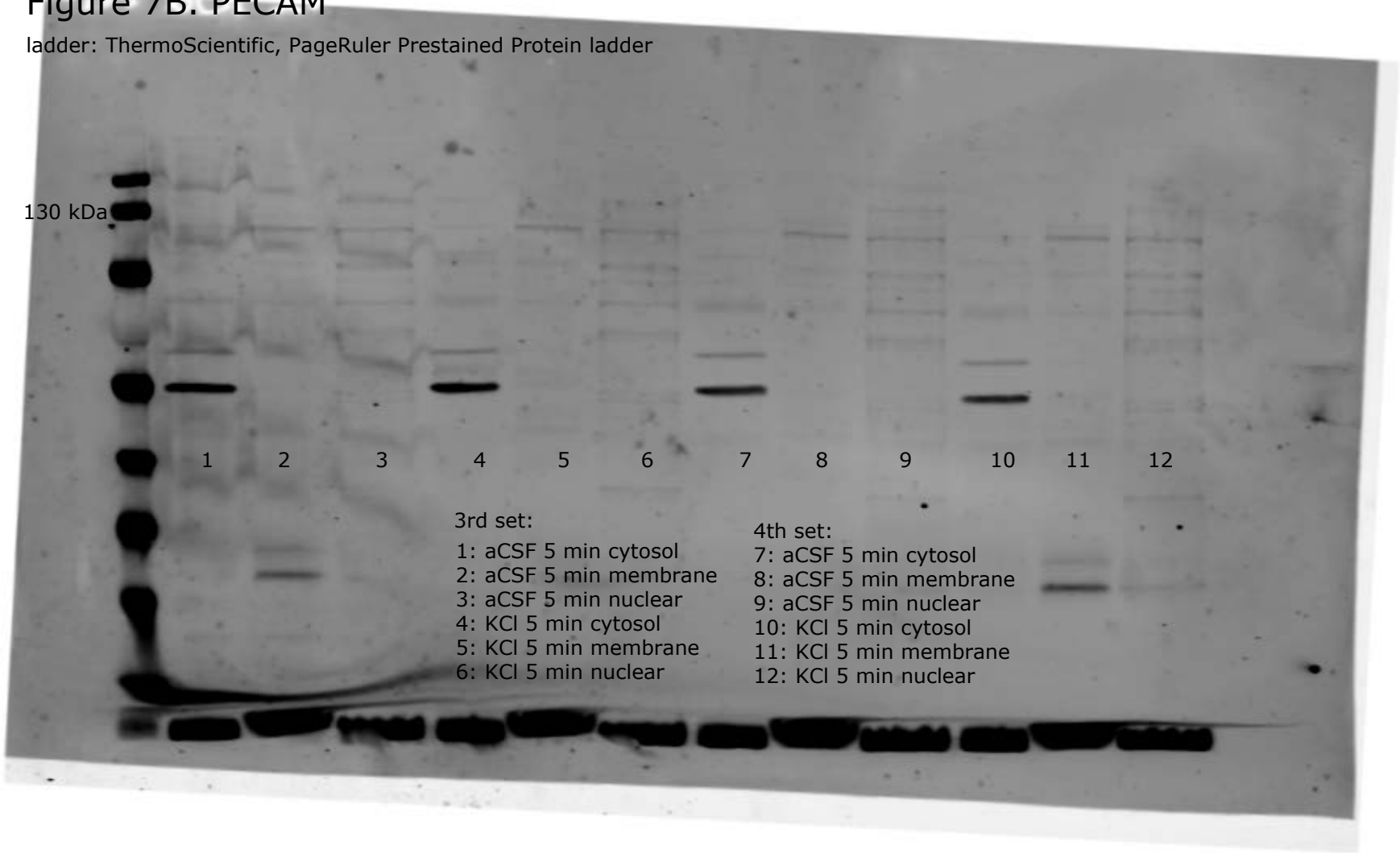
# Figure 7B. lamin B

ladder: ThermoScientific, PageRuler Prestained Protein ladder



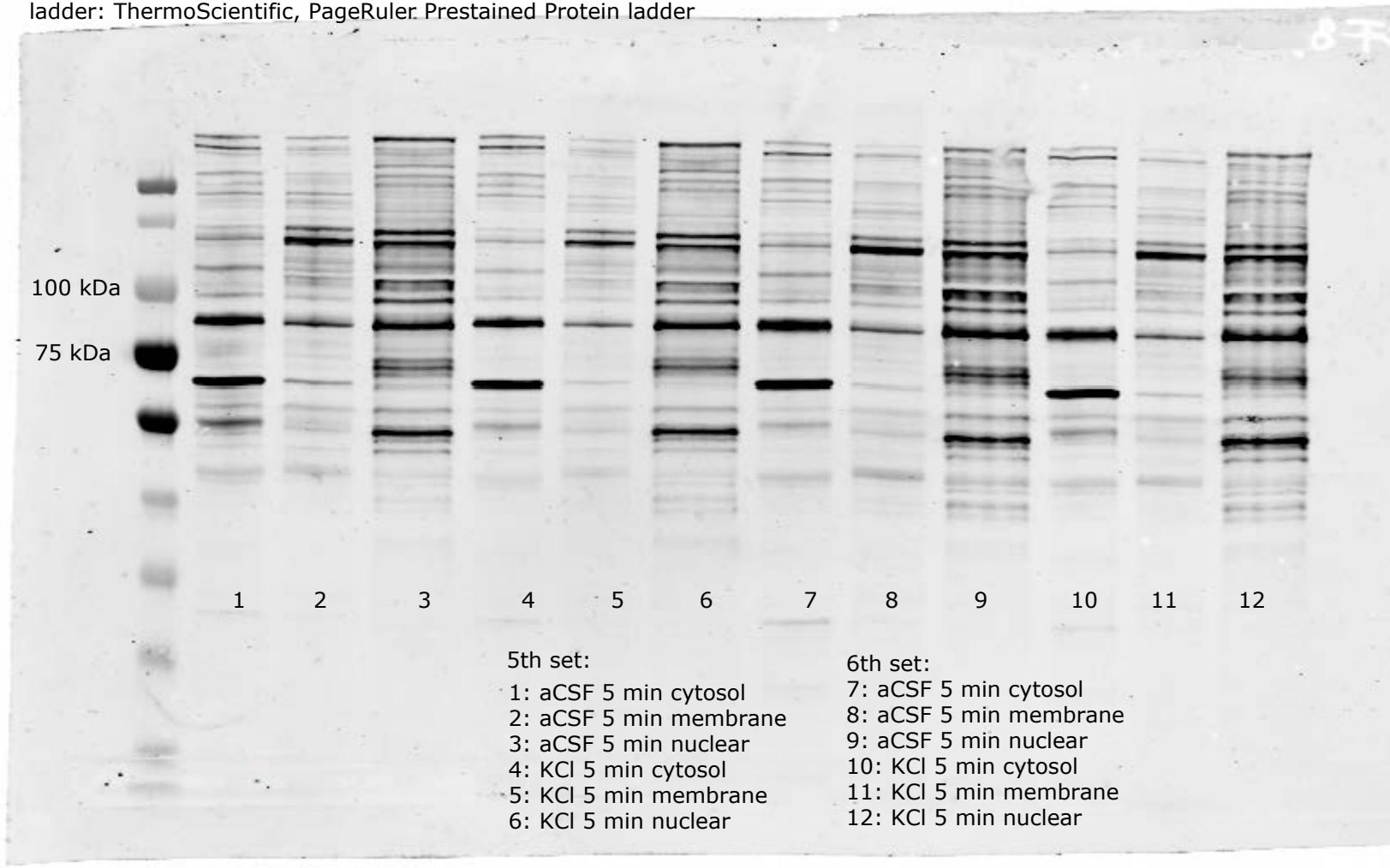
# Figure 7B. PECAM

ladder: ThermoScientific, PageRuler Prestained Protein ladder



# Figure 7B. NHE1

ladder: ThermoScientific, PageRuler Prestained Protein ladder




5th set:

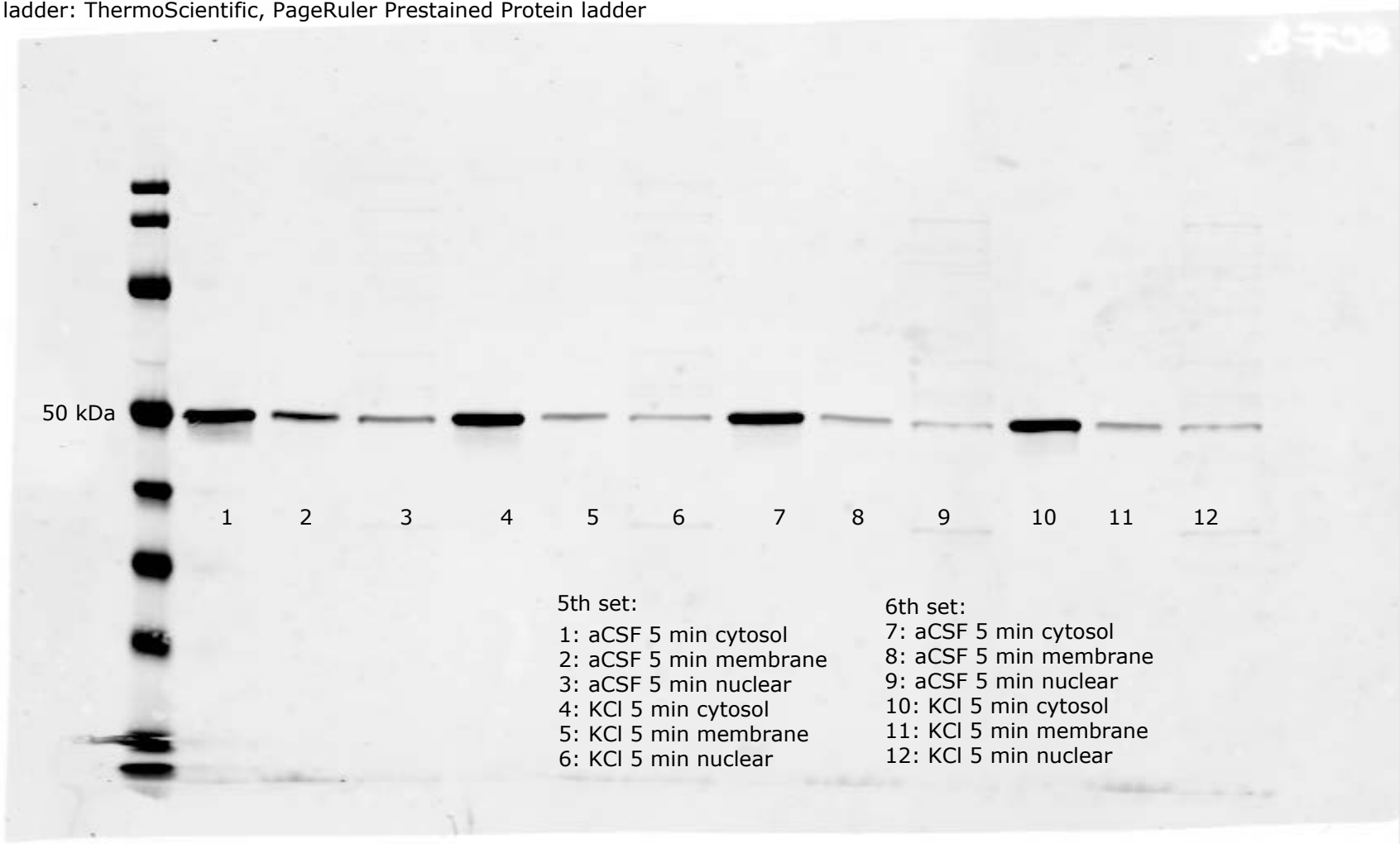
1: aCSF 5 min cytosol
2: aCSF 5 min membrane
3: aCSF 5 min nuclear
4: KCl 5 min cytosol
5: KCl 5 min membrane
6: KCl 5 min nuclear

6th set:

7: aCSF 5 min cytosol
8: aCSF 5 min membrane
9: aCSF 5 min nuclear
10: KCl 5 min cytosol
11: KCl 5 min membrane
12: KCl 5 min nuclear

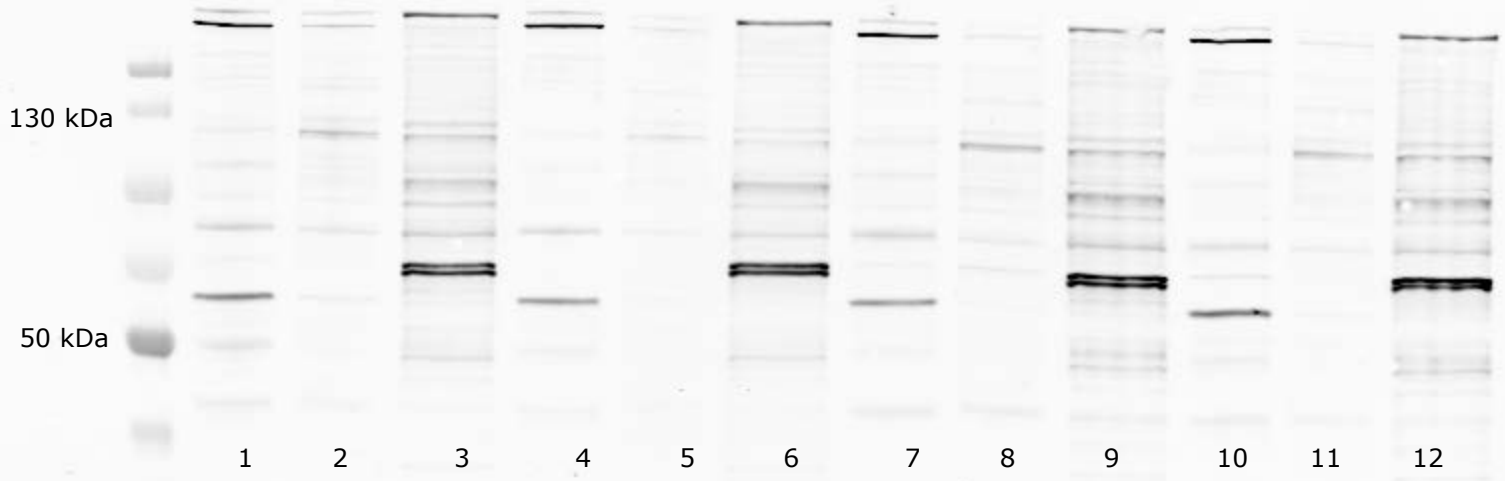
# Figure 7B. alpha-tubulin

ladder: ThermoScientific, PageRuler Prestained Protein ladder



# Figure 7B. PECAM and lamin B

ladder: ThermoScientific, PageRuler Prestained Protein ladder



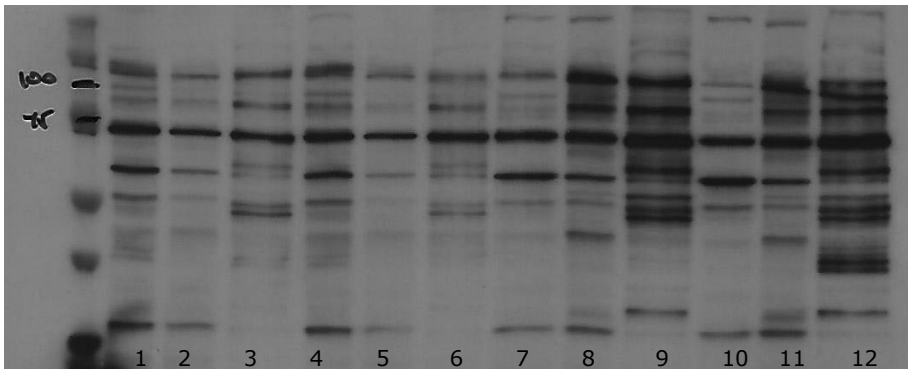

5th set:

1: aCSF 5 min cytosol
2: aCSF 5 min membrane
3: aCSF 5 min nuclear
4: KCl 5 min cytosol
5: KCl 5 min membrane
6: KCl 5 min nuclear

6th set:

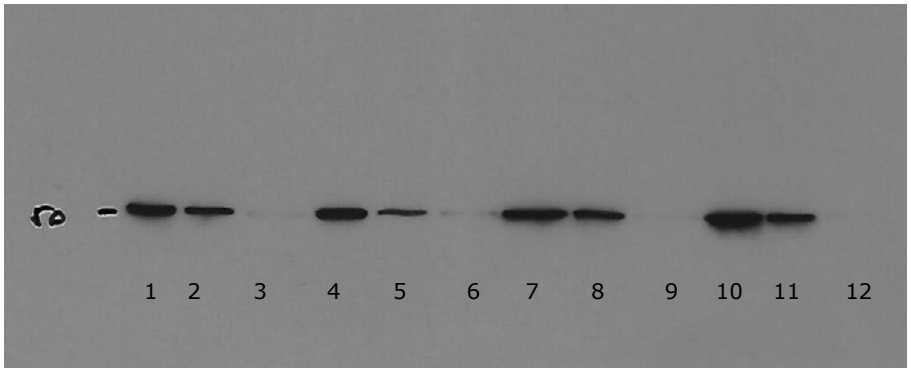
7: aCSF 5 min cytosol
8: aCSF 5 min membrane
9: aCSF 5 min nuclear
10: KCl 5 min cytosol
11: KCl 5 min membrane
12: KCl 5 min nuclear

Figure 7B. NHE1
ladder: Precision Plus Protein™ Dual Color Standards, BioRad

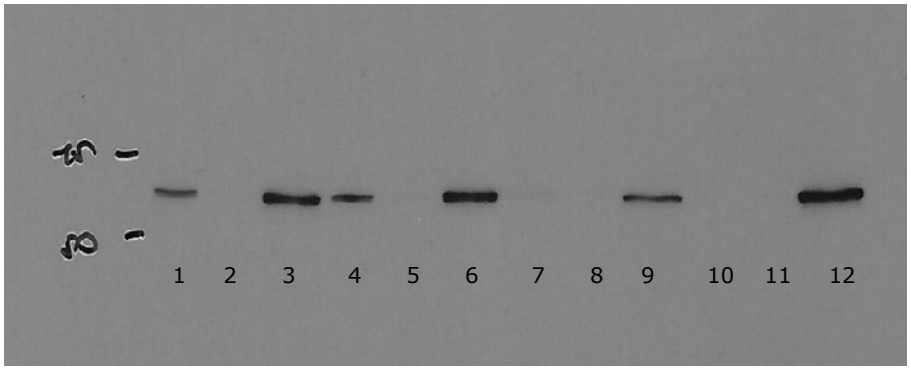



1: aCSF cytosol
2: aCSF membarne
3: aCSF nuclear
4: KCl cytosol
5: KCl membarne
6: KCl nuclear
7: aCSF cytosol
8: aCSF membarne
9: aCSF nuclear
10: KCl cytosol
11: KCl membarne
12: KCl nuclear

alpha-tubulin




lamin B




PECAM

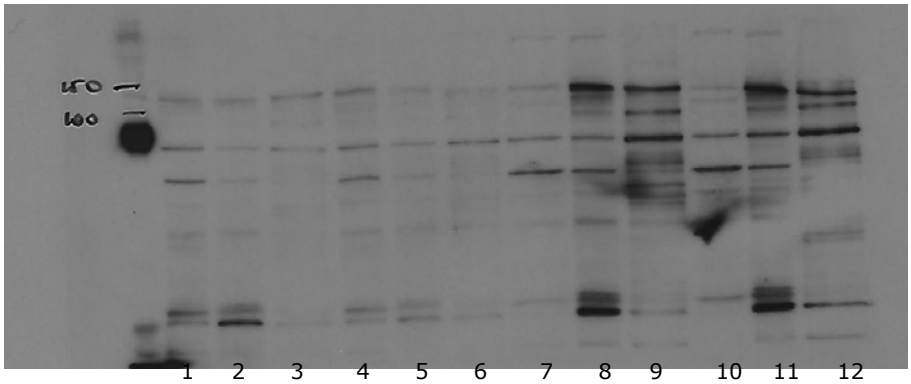
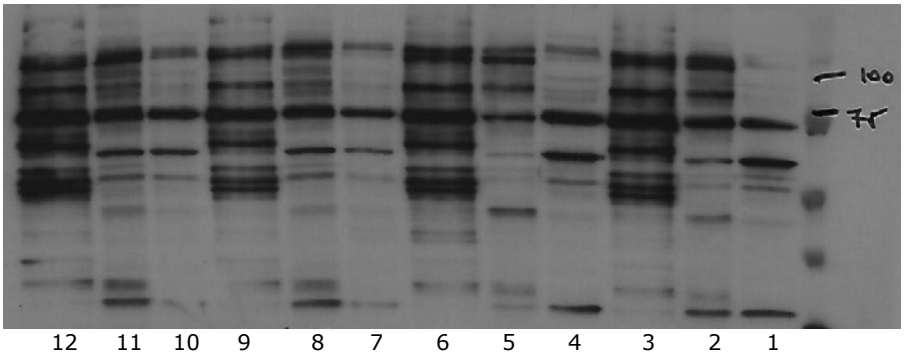
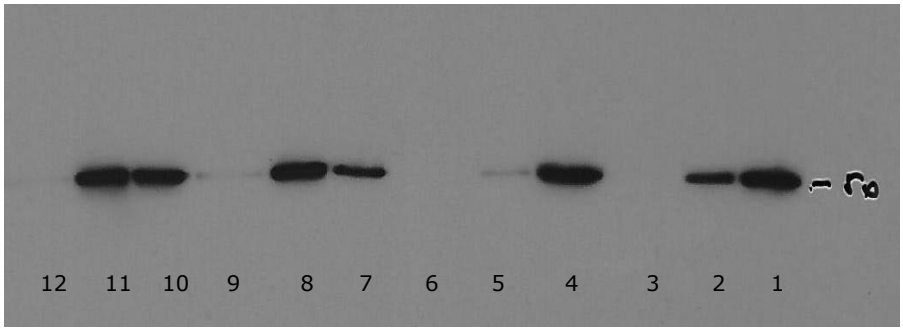


Figure 7B. NHE1
ladder: Precision Plus Protein™ Dual Color Standards, BioRad

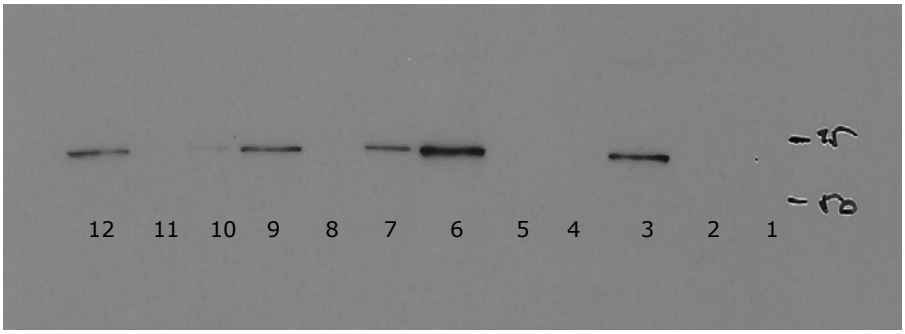



1: aCSF cytosol
2: aCSF membarne
3: aCSF nuclear
4: KCl cytosol
5: KCl membarne
6: KCl nuclear
7: aCSF cytosol
8: aCSF membarne
9: aCSF nuclear
10: KCl cytosol
11: KCl membarne
12: KCl nuclear

alpha-tubulin




lamin B




PECAM

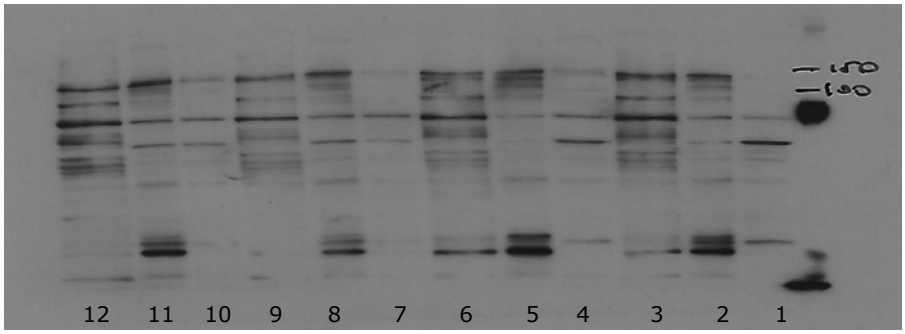
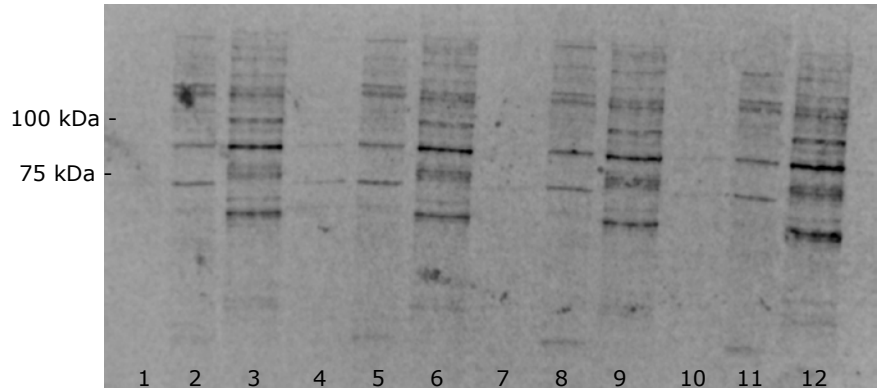
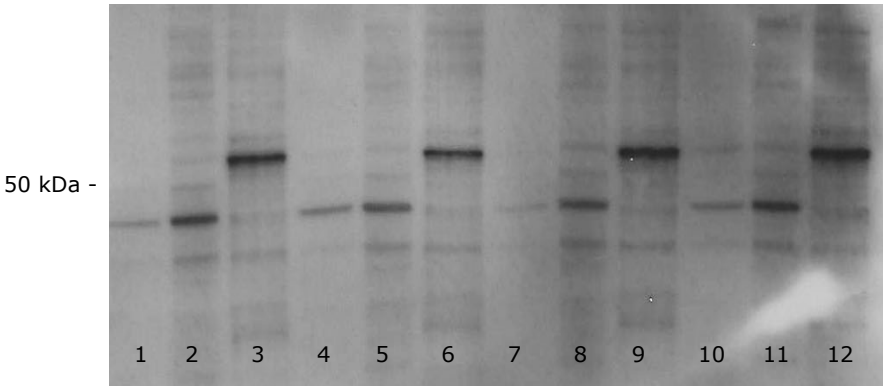


Figure 7B. NHE1
ladder: Precision Plus Protein™ Dual Color Standards, BioRad

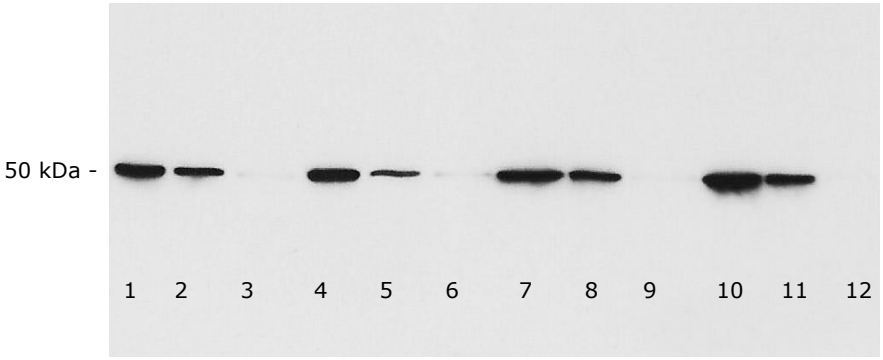



1: aCSF cytosol
2: aCSF membarne
3: aCSF nuclear
4: KCl cytosol
5: KCl membarne
6: KCl nuclear
7: aCSF cytosol
8: aCSF membarne
9: aCSF nuclear
10: KCl cytosol
11: KCl membarne
12: KCl nuclear

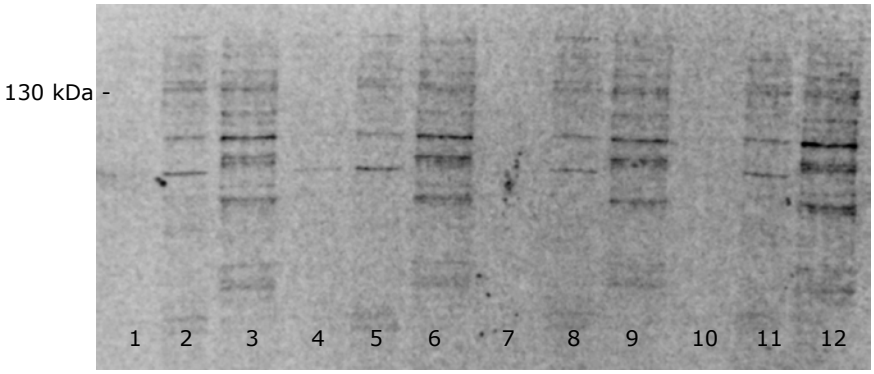
lamin B

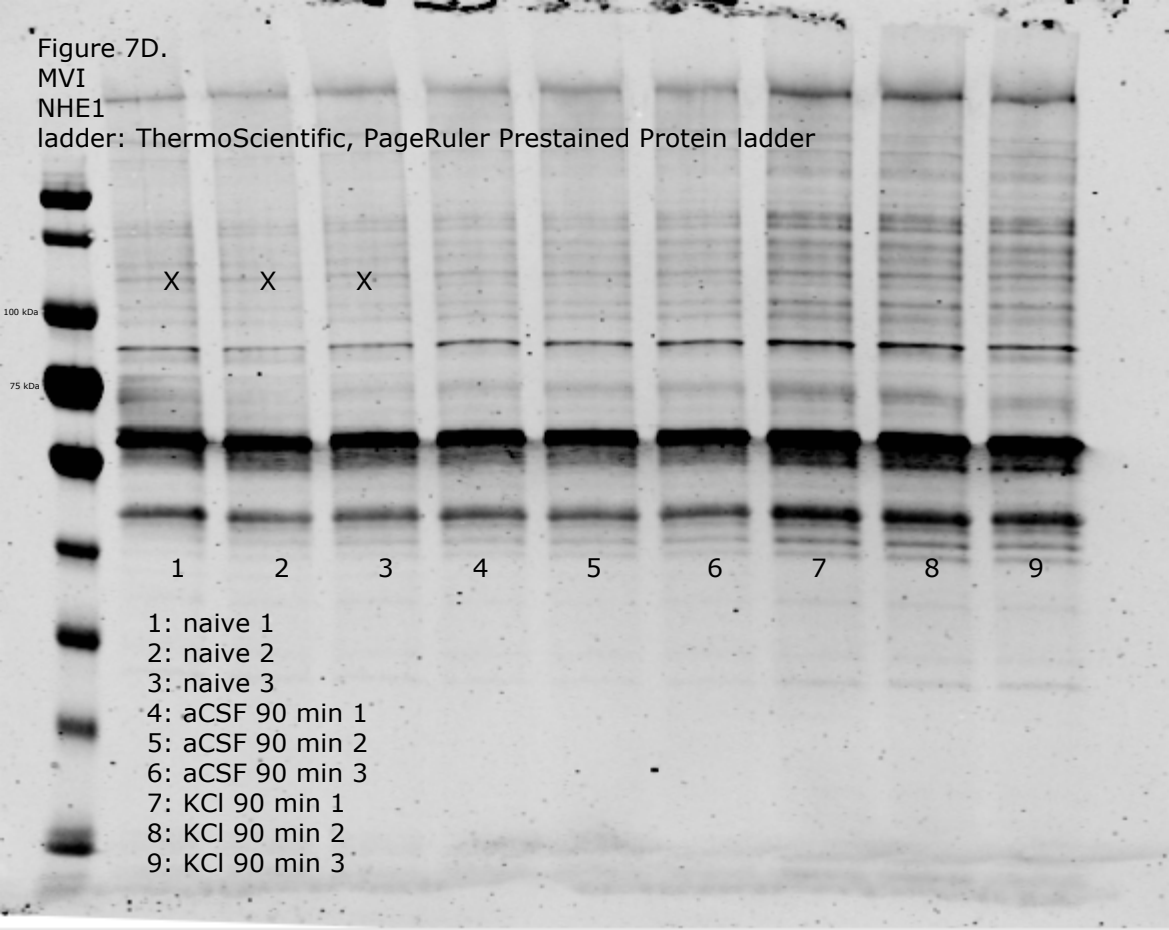



alpha-tubulin




PECAM




Figure 7D.
MVI
NHE1
ladder: ThermoScientific, PageRuler Prestained Protein ladder
X
X
X
100 kDa
75 kDa
1
2
3
4
5
6
7
8
9
1: naive 1
2: naive 2
3: naive 3
4: aCSF 90 min 1
5: aCSF 90 min 2
6: aCSF 90 min 3
7: KCl 90 min 1
8: KCl 90 min 2
9: KCl 90 min 3

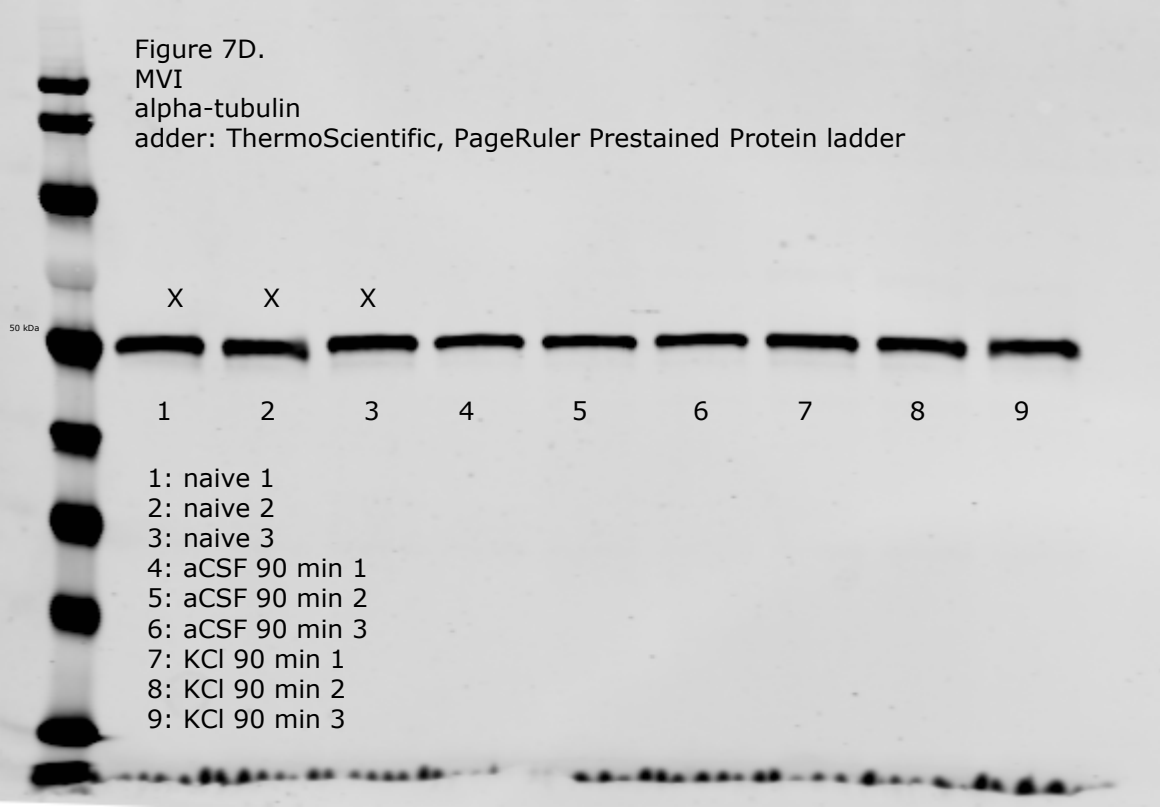

Figure 7D.
MVI
alpha-tubulin
adder: ThermoScientific, PageRuler Prestained Protein ladder
X X X
50 kDa
1 2 3 4 5 6 7 8 9
1: naive 1
2: naive 2
3: naive 3
4: aCSF 90 min 1
5: aCSF 90 min 2
6: aCSF 90 min 3
7: KCl 90 min 1
8: KCl 90 min 2
9: KCl 90 min 3

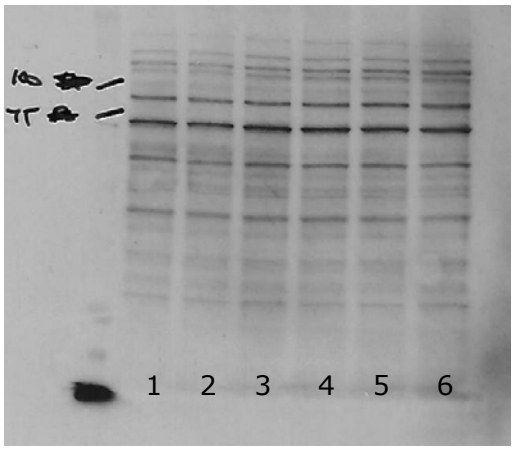
**Figure 7E.**

| | Media | | aCSF | | KCl (60 mM) | |
|---|---|---|---|---|---|---|
| **Time** | **mean** | **± SEM** | **mean** | **± SEM** | **mean** | **± SEM** |
| **BL** | 6.966 | 0.147 | 6.936 | 0.074 | 7.273 | 0.081 |
| **1** | 6.821 | 0.304 | 7.002 | 0.077 | 7.306 | 0.084 |
| **2** | 7.064 | 0.324 | 7.025 | 0.107 | 6.947 | 0.109 |
| **3** | 6.839 | 0.260 | 7.045 | 0.093 | 7.525 | 0.158 |
| **4** | 7.232 | 0.337 | 7.142 | 0.089 | 6.880 | 0.106 |
| **5** | 7.377 | 0.281 | 7.315 | 0.107 | 6.554 | 0.156 |

**Figure 7F.**

| | Media | | aCSF | | KCl (60 mM) | |
|---|---|---|---|---|---|---|
| **Time** | **mean** | **± SEM** | **mean** | **± SEM** | **mean** | **± SEM** |
| **BL** | 7.682 | 0.021 | 7.738 | 0.019 | 7.733 | 0.024 |
| **5** | 7.962 | 0.114 | 8.140 | 0.100 | 8.103 | 0.103 |
| **30** | 7.923 | 0.090 | 7.937 | 0.088 | 7.952 | 0.083 |

Fig 8D
NHE1
ladder: Precision PlusProtein™ Dual Color Standards, BioRad




1: naive 1
2: naive 2
3: KCl5 min 1
4: KCl 5 min 2
5: aCSF 5 min 1
6: aCSF 5 min 2

alpha tubulin

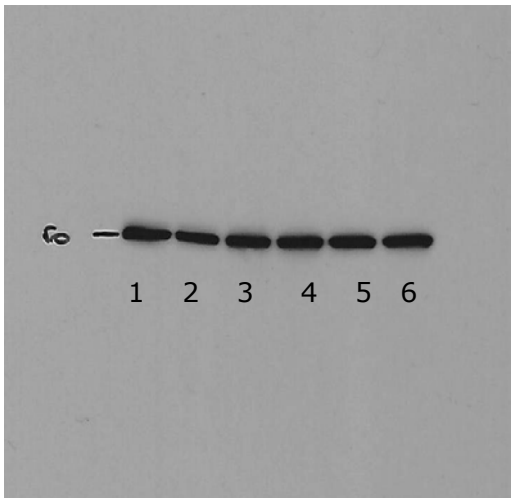
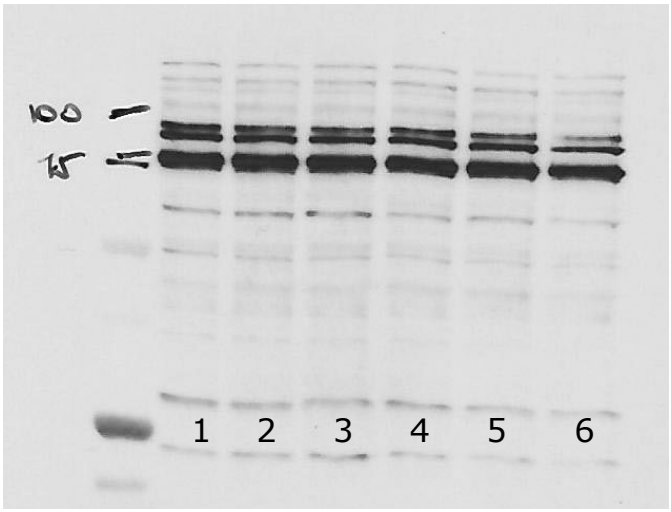
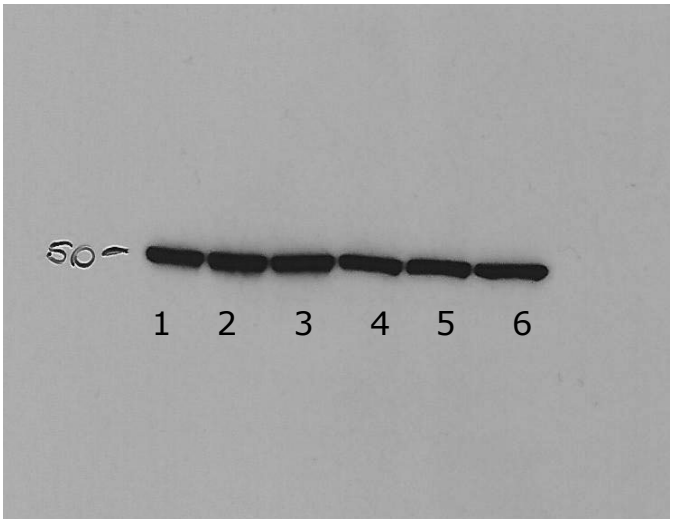


Fig 8E
NHE1
ladder: Precision PlusProtein™ Dual Color Standards, BioRad




1:naive 1
2: naive 2
3: KCl 5 min 1
4: KCl 5 min 2
5: aCSF 5 min 1
6: aCSF 5 min 2

alpha tubulin



## S1 Figure

| TEER | Media | | | 6.8 | | | 7.0 | | |
|---|---|---|---|---|---|---|---|---|---|
| **Baseline** | 163 | 161 | 159 | 165 | 163 | 160 | 163 | 160 | 163 |
| **0** | 163 | 159 | 160 | 115 | 119 | 119 | 139 | 134 | 137 |
| **10** | 163 | 160 | 159 | 111 | 113 | 114 | 133 | 129 | 129 |
| **20** | 163 | 163 | 167 | 113 | 115 | 115 | 129 | 131 | 131 |
| **30** | 159 | 159 | 157 | 115 | 113 | 117 | 133 | 127 | 131 |
| **60** | 165 | 164 | 163 | 113 | 113 | 115 | 131 | 129 | 129 |
| **120** | 159 | 161 | 163 | 117 | 114 | 115 | 130 | 129 | 125 |
| **180** | 161 | 159 | 160 | 113 | 111 | 115 | 133 | 129 | 129 |
| **360** | 163 | 160 | 163 | 111 | 113 | 114 | 129 | 131 | 127 |

| TEER | 7.2 | | | 7.4 | | | 7.6 | | |
|---|---|---|---|---|---|---|---|---|---|
| **Baseline** | 163 | 159 | 160 | 159 | 163 | 159 | 161 | 164 | 161 |
| **0** | 155 | 153 | 154 | 159 | 159 | 157 | 115 | 119 | 119 |
| **10** | 153 | 149 | 155 | 155 | 155 | 159 | 129 | 123 | 127 |
| **20** | 155 | 154 | 153 | 159 | 163 | 161 | 115 | 119 | 117 |
| **30** | 160 | 163 | 157 | 161 | 155 | 157 | 115 | 117 | 115 |
| **60** | 159 | 161 | 159 | 160 | 159 | 159 | 113 | 115 | 114 |
| **120** | 163 | 160 | 161 | 160 | 159 | 159 | 115 | 119 | 117 |
| **180** | 163 | 160 | 159 | 157 | 155 | 157 | 115 | 117 | 115 |
| **360** | 159 | 159 | 163 | 163 | 157 | 155 | 115 | 113 | 114 |

## S2 Figure

| pHe | aCSF+zoniporide (10 nM) | | | | | | KCl +zoniporide (10 nM) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **baseline** | 7.95 | 7.96 | 8.02 | 8.05 | 8.08 | 8.07 | 7.95 | 7.96 | 8.07 | 8.08 | 8.07 | 8.07 |
| **5 min** | 8.31 | 8.34 | 8.37 | 8.38 | 8.38 | 8.4 | 8.32 | 8.33 | 8.36 | 8.37 | 8.38 | 8.39 |
| **30 min** | 8.54 | 8.55 | 8.55 | 8.56 | 8.53 | 8.54 | 8.54 | 8.56 | 8.54 | 8.55 | 8.53 | 8.53 |