Supplementary Table 1: Individual Patient Demographics:

Subject	Age (Yrs)	Sex	Caucasian Race	Ethnicity	Symptoms Began (year)	Dx (year)	Time since diagnosis (years)	Anti-parkinson therapy (carbidopa-levodopa 25-100mg; carbidopa-levodopa 50-200mg; carbidopa-levodopa 23-95mg)
3000	51.00	Male	Unknown	Non-Hispanic	2019	2020	4	none
3001	57.00	Male	Unknown	Unknown	2017	2019	5	carbidopa/levodopa 25-100 mg (not prescribed until Dec 2023)
3003	73.00	Male	White	Non-Hispanic	2019	2019	5	carbidopa-levodopa 25-100 mg
3004	65.00	Female	White	Non-Hispanic	2019	2019	5	carbidopa-levodopa 23-95 mg
3005	61.00	Female	White	Non-Hispanic	2002	2003	21	carbidopa-levodopa 25-100 mg/carbidopa-levodopa 61.25-245 mg
3006	53.00	Female	White	Non-Hispanic	2013	2017	7	carbidopa-levodopa 25-100 mg
3007	68.00	Male	White	Unknown	2020	2022	2	carbidopa-levodopa 25-100 mg (not prescribed until Dec 2023)
3008	59.00	Female	White	Non-Hispanic	2020	2021	3	carbidopa-levodopa 25-100 mg
3009	54.00	Male	White	Non-Hispanic	2019	2022	2	carbidopa-levodopa 25-100 mg
3010	57.00	Male	Unknown	Unknown	2020	2021	3	carbidopa-levodopa 25-100 mg

Supplementary Table 2: Adverse events across Phase 1 Trials

	Sargramostim Phase 1A 6 µg/kg, qd, 2 mos (n = 10)		Sargramostim Phase 1B 3 µg/kg, 5d/wk, 33 mos (n = 5)		Sargramostim Phase 1C 3 µg/kg, 5d/wk, 12 mos (n = 10)	
Adverse Event for each subject	**Number**	**Percentage**	**Number**	**Percentage**	**Number**	**Percentage**
Any adverse event	10	100	5	100	9	90
Any severe adverse event	3	30	1	20	0	0
Any serious adverse event	1	10	1	20	0	0
Adverse event leading to withdrawal	4	40	0	0	0	0
Possible relationship to drug/placebo	10	100	5	100	8	80
Definitive relationship to drug/placebo	7	70	3	60	7	70
Category, Subjects reporting						
1 Abnormal Laboratory	10	100	5	100	0	0
2 Injection site reaction	10	100	4	80	8	80
3 Chest pain or discomfort	4	40	1	20	1	10
4 Pain, upper torso & extremities	7	70	1	20	0	0
5 Pain, lower torso & extremities	3	30	0	0	1	10
6 Pain, other than extremities	0	0	1	20	3	30
7 Rash, other than injection site	4	40	0	0	0	0
8 Itching, other than injection site	2	20	0	0	0	0
9 Edema, other than injection site	1	10	0	0	1	10
10 Shortness of breath, wheezing	3	30	0	0	0	0
11 Headache	2	20	1	20	1	10
12 Fatigue	2	20	0	0	0	0
13 Chills, fever, flu like symptoms	2	20	0	0	2	20
14 Infection, any	2	20	2	40	0	0
15 GI tract, nausea, vomiting	3	30	3	60	1	10
16 Muscle, soreness, weakness	3	30	2	40	0	0
17 Equilibrium	1	10	0	0	0	0
18 Injury, fall	2	20	3	60	1	10
19 Skin, not infection	1	10	4	80	2	20
20 Cardiovascular, hematological, lymphatic	2	20	1	20	5	50
21 Neurological, psychological, weakness	2	20	3	60	0	0
22 Ophthalmological	1	10	3	60	0	0
23 Sleep anomalies	1	10	1	20	0	0
24 Movements involuntary	0	0	0	0	1	10
25 Bruising	0	0	0	0	1	10
26 Arthritis	0	0	0	0	1	10
27 Toothache	0	0	0	0	1	10
28 Surgical and medical procedures	0	0	0	0	1	10
29 Neoplasms, cysts	0	0	1	20	0	0
30 Weight loss	0	0	1	20	0	0
	Median	**Mean ± SD**	**Median**	**Mean ± SD**	**Median**	**Mean ± SD**
Total adverse events/subject	13.5	15.1 ± 8.5	25	39.80 ± 27.73*	5	5.7 ± 4.9
Total adverse events/subject/mo	6.8	7.6 ± 4.2	1.08	1.42 ± 0.99*	0.42	0.48 ± 0.41*
Severity of Adverse events	1.7	1.6 ± 0.3	1.05	1.16 ± 0.20	1	0.88 ± 0.49*
Likelihood of drug-related	3.75	3.5 ± 0.7	2.89	2.78 ± 1.02	2.4	2.5 ± 1.3

Supplementary Table 3: CBC with Differential Counts

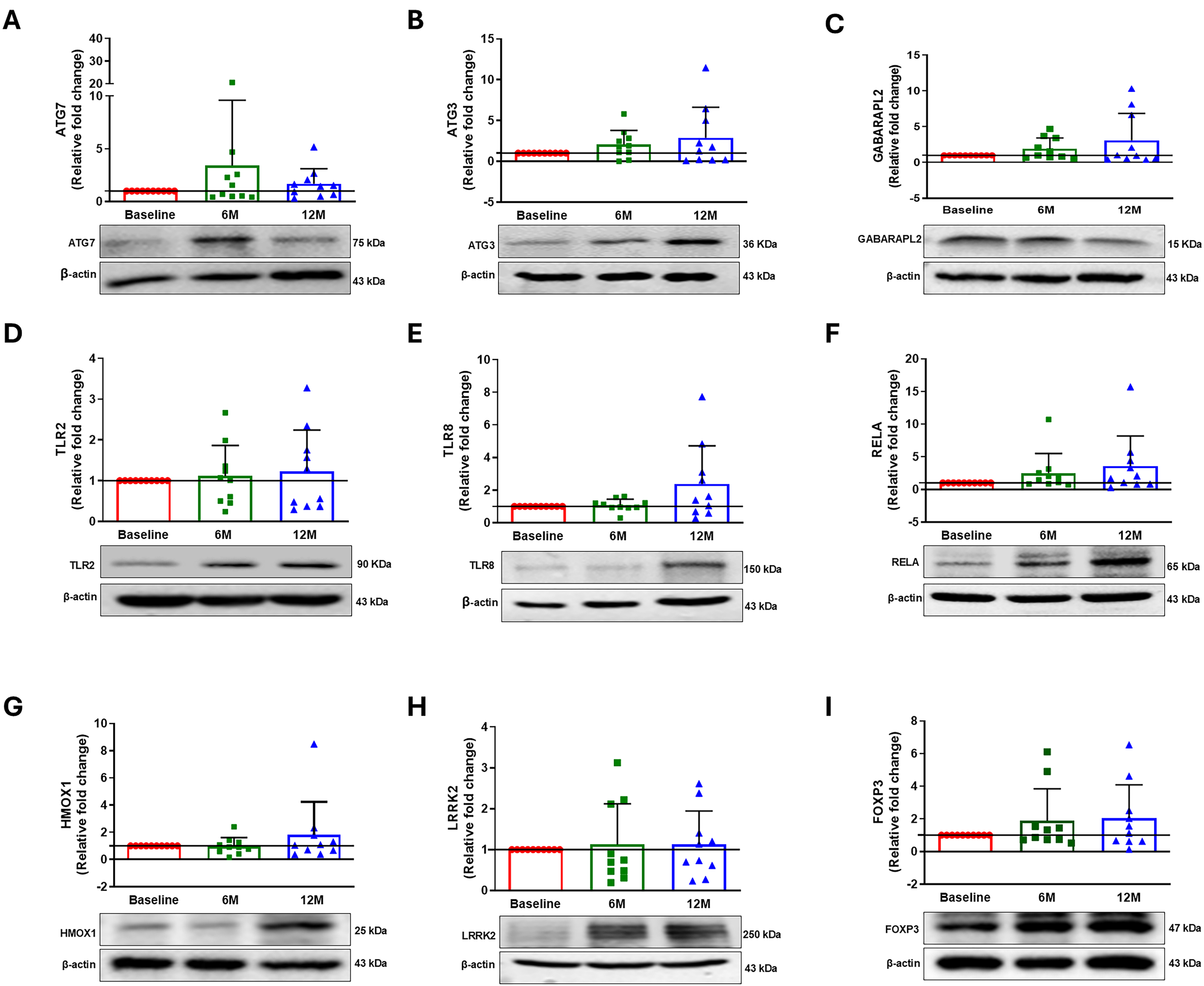
	Patient ID	3000	3001	3003	3004	3005	3006	3007	3008	3009	3010	Mean±SD
WBC Count	Baseline	6.10	5.70	6.30	5.50	4.60	5.40	6.50	6.50	6.80	6.10	5.95±0.66
	6M	9.80	6.80	15.00	21.30	5.00	9.10	5.80	8.40	12.10	21.70	11.50±6.04 *
	12M	19.80	5.50	10.10	21.40	4.10	11.60	8.80	7.50	10.80	11.80	11.14±5.26 *
RBC Count	Baseline	4.83	4.67	4.58	3.40	4.40	4.27	4.51	4.16	4.75	5.26	4.49±0.49
	6M	4.98	4.43	4.03	3.69	4.54	4.13	4.58	4.47	5.00	5.39	4.52±0.50
	12M	5.00	4.30	4.13	3.57	3.93	4.17	4.52	4.92	4.99	5.28	4.48±0.56
Hemoglobin	Baseline	14.80	14.10	15.30	10.60	13.30	13.20	14.60	12.70	14.00	15.50	13.81±1.45
	6M	14.90	13.30	13.60	11.00	13.80	13.20	14.70	13.20	14.60	16.10	13.84±1.37
	12M	15.80	13.40	14.00	11.20	12.20	13.70	14.30	14.70	14.60	15.40	13.93±1.39
Hematocrit	Baseline	43.60	41.50	44.60	33.20	39.60	42.80	44.00	37.90	40.80	47.30	41.53±3.97
	6M	45.30	38.60	39.60	35.40	39.70	39.20	44.60	40.20	43.80	47.90	41.43±3.80
	12M	47.20	38.20	39.80	35.40	36.00	39.80	43.90	44.20	43.10	47.80	41.54±4.26
MCV	Baseline	90.30	88.90	97.40	97.60	90.00	100.20	97.60	91.10	85.90	89.90	92.89±4.83
	6M	91.00	87.10	98.30	95.90	87.40	94.90	97.40	89.90	87.60	88.90	91.84±4.37
	12M	94.40	88.80	96.40	99.20	91.60	95.40	97.10	89.80	86.40	90.50	92.96±3.99
MCHC	Baseline	33.90	34.00	34.30	31.90	33.60	30.80	33.20	33.50	34.30	32.80	33.23±1.13
	6M	32.90	34.50	34.30	31.10	34.80	33.70	33.00	32.80	33.30	33.60	33.40±1.06
	12M	33.50	35.10	35.20	31.60	33.90	34.40	32.60	33.30	33.90	32.20	33.57±1.20
Red cell distrib width (RDW)	Baseline	12.30	12.50	12.10	12.70	11.90	12.40	12.70	11.90	12.00	12.40	12.29±0.30
	6M	13.90	13.00	12.10	14.20	11.90	12.30	14.00	12.90	12.30	12.90	12.95±0.83
	12M	13.50	12.70	12.20	12.90	11.90	12.60	13.20	12.60	12.60	12.80	12.70±0.48
Platelet Count	Baseline	193.00	256.00	195.00	327.00	202.00	285.00	243.00	245.00	226.00	137.00	230.9±53.27
	6M	165.00	222.00	142.00	324.00	225.00	250.00	241.00	348.00	163.00	159.00	223.9±70.31
	12M	159.00	219.00	220.00	330.00	154.00	239.00	230.00	335.00	202.00	160.00	224.8±64.59
Neutrophil	Baseline	48.00	0.00	83.00	52.00	48.00	61.00	74.00	58.00	73.00	48.00	54.50±22.83
	6M	30.00	42.00	63.00	65.00	60.00	73.00	66.00	56.00	73.00	58.00	58.60±13.47
	12M	46.00	44.00	57.00	54.00	54.00	52.00	73.00	59.00	77.00	45.00	56.10±10.36
Lymphocyte	Baseline	43.00	0.00	8.00	34.00	42.00	27.00	17.00	28.00	20.00	37.00	25.60±14.34
	6M	29.00	44.00	3.00	11.00	30.00	19.00	19.00	20.00	11.00	14.00	20.00±11.77
	12M	12.00	42.00	8.00	8.00	24.00	14.00	12.00	20.00	10.00	22.00	17.20±6.07
Monocyte	Baseline	6.00	0.00	8.00	6.00	7.00	6.00	6.00	7.00	5.00	11.00	6.20±2.74
	6M	6.00	8.00	2.00	_	7.00	6.00	7.00	9.00	5.00	7.00	6.33±2.00
	12M	3.00	10.00	5.00	2.00	10.00	1.00	6.00	8.00	5.00	5.00	5.50±2.67
Eosinophil	Baseline	2.00	0.00	1.00	7.00	2.00	5.00	2.00	6.00	2.00	2.00	2.90±2.28
	6M	31.00	5.00	32.00	17.00	2.00	2.00	7.00	13.00	10.00	21.00	14.00±11.09 *
	12M	19.00	3.00	20.00	10.00	11.00	32.00	8.00	12.00	8.00	18.00	14.10±7.50 *
Basophil	Baseline	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.70±0.48
	6M	1.00	1.00	0.00	_	1.00	0.00	1.00	1.00	1.00	0.00	0.67±0.50
	12M	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.80±0.42
Absolute Neutrophil	Baseline	3.00	0.00	5.20	2.80	2.20	3.30	4.90	3.80	4.90	2.60	3.27±1.56
	6M	3.20	2.90	9.50	13.80	3.00	6.60	3.80	4.80	8.90	12.60	6.91±4.08
	12M	12.70	2.40	6.70	16.90	2.30	6.00	6.50	4.50	8.30	6.00	7.23±4.20 *
Absolute Lymphocyte	Baseline	2.60	0.00	0.50	1.90	1.90	1.50	1.10	1.80	1.40	2.00	1.47±0.77
	6M	2.80	3.00	0.40	2.30	1.50	1.70	1.10	1.70	1.30	3.00	1.88±0.87
	12M	2.80	2.30	0.80	1.70	1.00	1.60	1.00	1.50	1.10	2.60	1.64±0.71
Absolute Monocyte	Baseline	0.40	0.00	0.50	0.40	0.30	0.30	0.40	0.50	0.40	0.60	0.38±0.16
	6M	0.60	0.60	0.30	_	0.40	0.50	0.40	0.70	0.60	1.50	0.62±0.35
	12M	0.60	0.60	0.50	0.40	0.40	0.10	0.50	0.60	0.50	0.60	0.48±0.15
Absolute Eosinophil	Baseline	0.10	0.00	0.10	0.40	0.10	0.30	0.10	0.40	0.20	0.10	0.18±0.14
	6M	3.00	0.30	4.80	3.60	0.10	0.20	0.40	1.10	1.30	4.60	1.94±1.88 *
	12M	3.80	0.20	2.00	2.10	0.50	3.70	0.70	0.90	0.80	2.10	1.68±1.18 *
Absolute Basophil	Baseline	0.00	0.00	0.00	0.10	0.00	0.10	0.10	0.10	0.00	0.10	0.05±0.05
	6M	0.10	0.00	0.00	_	0.00	0.00	0.10	0.10	0.10	0.00	0.04±0.05
	12M	0.00	0.00	0.10	0.20	0.00	0.10	0.10	0.10	0.00	0.10	0.07±0.06

Supplementary Table 4: Lymphocyte Counts

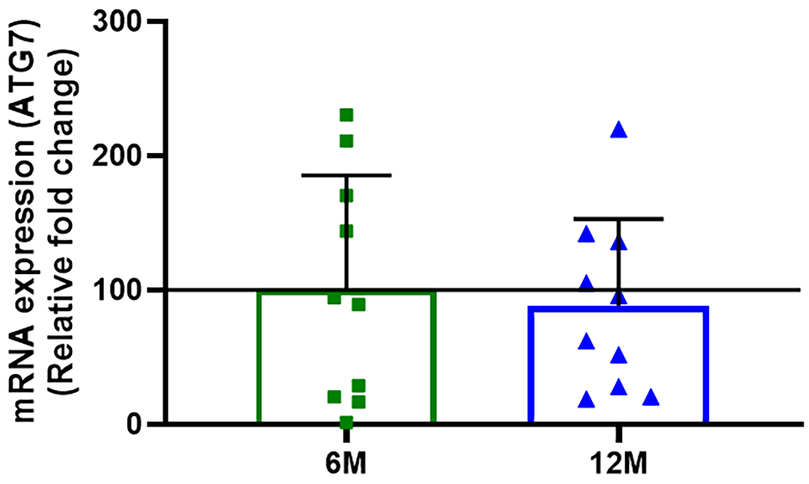
	Patient ID	3000	3001	3003	3004	3005	3006	3007	3008	3009	3010	Mean±SD
CD3%	Baseline	84.90	81.80	60.00	85.70	83.50	62.90	70.70	73.80	80.80	62.60	74.67±10.05
	6M	84.90	82.50	43.60	87.10	84.20	66.60	72.90	80.00	80.40	62.70	74.49±13.54
	12M	80.20	83.90	44.80	89.50	87.00	68.90	70.60	79.60	81.60	63.40	74.95±13.45
CD4%	Baseline	56.20	37.70	39.20	59.50	41.20	51.70	37.20	53.10	41.30	39.50	45.66±8.49
	6M	56.20	35.50	27.70	62.60	43.60	54.50	43.70	56.50	42.10	39.30	46.17±10.94
	12M	45.90	37.50	29.70	59.20	47.40	55.30	46.40	57.90	47.10	41.40	46.78±9.18
CD8%	Baseline	27.30	42.60	18.20	27.60	41.90	11.20	32.20	19.90	38.30	22.70	28.19±10.55
	6M	27.30	45.30	14.50	25.70	39.40	11.50	28.10	23.10	37.60	23.30	27.58±10.68
	12M	32.40	45.80	13.00	32.20	39.00	13.30	23.20	21.40	34.10	22.10	27.65±10.82
CD4/CD8 Ratio	Baseline	2.10	0.90	2.20	2.20	1.00	4.60	1.20	2.70	1.10	1.70	1.97±1.11
	6M	2.10	0.80	1.90	2.40	1.10	4.70	1.60	2.40	1.10	1.70	1.98±1.10
	12M	1.40	0.80	2.30	1.80	1.20	4.20	2.00	2.70	1.40	1.90	1.97±0.96

Supplementary Table 5: Metabolic Panel

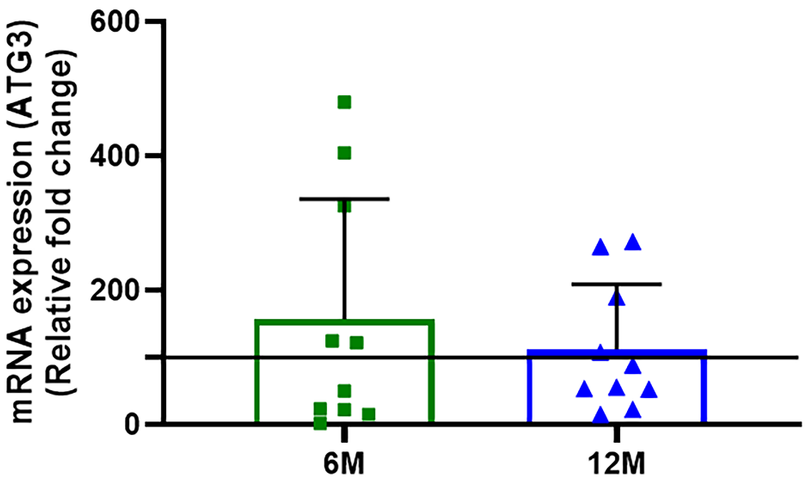
Metabolic Parameters	Patient ID	3000	3001	3003	3004	3005	3006	3007	3008	3009	3010	Mean±SD
Albumin	Baseline	3.60	4.30	4.40	4.30	3.90	4.20	4.50	4.50	4.20	1.20	3.91±0.99
	6M	3.60	4.10	3.80	3.90	4.20	3.90	4.40	4.40	4.40	4.40	4.11±0.30
	12M	3.70	4.30	4.10	4.20	3.70	3.80	4.00	4.60	4.10	4.20	4.07±0.28
Alkaline Phosphatase	Baseline	60.00	35.00	42.00	83.00	50.00	57.00	49.00	56.00	55.00	47.00	53.40±12.83
	6M	60.00	37.00	45.00	81.00	57.00	61.00	59.00	82.00	42.00	46.00	57.00±15.35
	12M	68.00	33.00	39.00	163.00	69.00	73.00	57.00	81.00	41.00	44.00	66.80±37.56
Alanine transaminase	Baseline	3.00	10.00	4.00	8.00	3.00	9.00	18.00	29.00	22.00	3.00	10.90±9.12
	6M	3.00	13.00	11.00	7.00	3.00	5.00	34.00	8.00	5.00	3.00	9.20±9.37
	12M	6.00	12.00	6.00	3.00	3.00	7.00	6.00	4.00	3.00	3.00	5.30±2.83
Anion Gap	Baseline	7.00	10.00	7.00	8.00	7.00	11.00	10.00	10.00	8.00	9.00	8.70±1.49
	6M	7.00	6.00	6.00	9.00	8.00	11.00	6.00	7.00	10.00	7.00	7.70±1.76
	12M	4.00	7.00	7.00	7.00	6.00	9.00	8.00	11.00	7.00	7.00	7.30±1.83
Aspartate Transferase	Baseline	10.00	13.00	25.00	15.00	12.00	27.00	14.00	20.00	16.00	14.00	16.60±5.62
	6M	10.00	15.00	12.00	11.00	14.00	18.00	24.00	19.00	10.00	9.00	14.20±4.85
	12M	14.00	17.00	10.00	9.00	12.00	20.00	11.00	24.00	8.00	8.00	13.30±5.44
Bilirubin total	Baseline	0.4	0.70	1.00	0.50	0.80	0.30	0.90	0.60	0.80	0.80	0.68±0.22
	6M	0.40	0.50	0.40	0.50	0.90	0.40	0.70	0.80	0.90	0.70	0.62±0.20
	12M	0.40	0.60	0.80	0.50	0.70	0.30	0.90	0.60	0.90	1.00	0.67±0.23
Blood Urea Nitrogen	Baseline	14.00	11.00	28.00	18.00	14.00	20.00	29.00	13.00	15.00	16.00	17.80±6.18
	6M	14.00	13.00	34.00	20.00	17.00	18.00	26.00	12.00	15.00	20.00	18.90±6.72
	12M	14.00	16.00	35.00	17.00	17.00	23.00	21.00	15.00	17.00	19.00	19.40±6.11
Creatinine	Baseline	1.07	0.92	0.98	0.61	0.76	0.62	0.93	0.72	1.13	1.05	0.88±0.19
	6M	1.07	0.91	1.17	0.61	0.93	0.83	1.12	0.75	1.19	1.02	0.96±0.19
	12M	0.95	1.17	1.14	0.61	0.74	0.70	0.99	0.77	1.09	0.94	0.91±0.19
Blood Urea Nitrogen/Creatinine ratio	Baseline	13.10	12.00	28.60	29.50	18.40	32.30	31.20	18.10	13.30	15.20	21.17±8.25
	6M	13.10	14.30	29.10	32.80	18.30	21.70	23.20	16.00	12.60	19.60	20.07±6.77
	12M	14.70	13.70	30.70	27.90	23.00	32.90	21.20	19.50	15.60	20.20	21.94±6.70
Calcium	Baseline	8.50	9.40	9.50	9.60	9.20	9.20	9.20	9.10	9.30	9.90	9.29±0.36
	6M	8.50	9.20	9.20	9.50	9.60	9.80	9.80	9.60	9.50	10.20	9.49±0.45
	12M	9.00	9.50	9.50	9.4 0	9.10	10.10	10.00	10.00	9.10	9.80	9.55±0.40
Carbon dioxide	Baseline	25.00	29.00	31.00	28.00	30.00	26.00	29.00	27.00	27.00	29.00	28.10±1.85
	6M	25.00	30.00	30.00	29.00	29.00	26.00	32.00	30.00	25.00	29.00	28.50±2.37
	12M	27.00	28.00	28.00	29.00	30.00	27.00	30.00	27.00	28.00	29.00	28.30±1.16
Chloride	Baseline	108.00	104.00	103.00	103.00	105.00	103.00	105.00	105.00	104.00	103.00	104.30±1.57
	6M	108.00	105.00	107.00	103.00	104.00	103.00	104.00	104.00	104.00	103.00	104.50±1.72
	12M	107.00	103.00	108.00	103.00	104.00	104.00	106.00	104.00	103.00	103.00	104.50±1.84
Glomerular filtration rate	Baseline	84.00	98.00	82.00	99.00	89.00	107.00	90.00	96.00	78.00	83.00	90.60±9.19
	6M	84.00	98.00	66.00	99.00	70.00	84.00	72.00	92.00	73.00	86.00	82.40±11.78
	12M	97.00	73.00	68.00	99.00	91.00	103.00	83.00	88.00	81.00	95.00	87.80±11.47
Glucose	Baseline	92.00	124.00	74.00	84.00	71.00	65.00	119.00	86.00	117.00	91.00	92.30±21.01
	6M	92.00	109.00	99.00	81.00	76.00	147.00	92.00	88.00	107.00	94.00	98.50±19.90
	12M	99.00	116.00	100.00	90.00	88.00	120.00	83.00	92.00	114.00	106.00	100.80±12.82
Osmolality, calculated	Baseline	289.00	296.00	295.00	288.00	292.00	292.00	304.00	292.00	289.00	292.00	292.90±4.65
	6M	289.00	292.00	302.00	293.00	291.00	291.00	297.00	290.00	288.00	290.00	292.30±4.21
	12M	286.00	287.00	303.00	288.00	290.00	290.00	299.00	293.00	288.00	290.00	291.40±5.50
Potassium	Baseline	4.20	3.90	4.10	4.20	4.20	3.80	3.50	3.90	3.70	4.00	3.95±0.24
	6M	4.20	4.10	4.30	4.00	4.00	4.00	3.60	4.20	3.60	4.30	4.03±0.25
	12M	4.60	4.00	3.80	3.90	3.90	4.30	4.00	4.30	4.00	3.90	4.07±0.25
Sodium	Baseline	140.00	143.00	141.00	139.00	142.00	140.00	144.00	142.00	139.00	141.00	141.10±1.66
	6M	140.00	141.00	143.00	141.00	141.00	140.00	142.00	141.00	139.00	139.00	140.70±1.25
	12M	138.00	138.00	143.00	139.00	140.00	140.00	144.00	142.00	138.00	139.00	140.10±2.18
Protein total	Baseline	6.30	6.80	6.70	6.50	6.40	6.80	6.80	7.00	6.60	7.60	6.75±0.36
	6M	6.30	6.80	5.80	7.00	6.80	6.90	7.30	7.20	6.40	7.60	6.81±0.52
	12M	6.40	7.30	6.30	7.30	6.40	6.70	6.80	7.90	6.40	7.30	6.88±0.54


A
ATG7
(Relative fold change)
40
30
20
10
5
0
Baseline
6M
12M
ATG7
75 kDa
β-actin
43 kDa
B
ATG3
(Relative fold change)
15
10
5
0
-5
Baseline
6M
12M
ATG3
36 KDa
β-actin
43 kDa
C
GABARAPL2
(Relative fold change)
15
10
5
0
-5
Baseline
6M
12M
GABARAPL2
15 KDa
β-actin
43 kDa
D
TLR2
(Relative fold change)
4
3
2
1
0
Baseline
6M
12M
TLR2
90 KDa
β-actin
43 kDa
E
TLR8
(Relative fold change)
10
8
6
4
2
0
Baseline
6M
12M
TLR8
150 kDa
β-actin
43 kDa
F
RELA
(Relative fold change)
20
15
10
5
0
-5
Baseline
6M
12M
RELA
65 kDa
β-actin
43 kDa
G
HMOX1
(Relative fold change)
10
8
6
4
2
0
-2
Baseline
6M
12M
HMOX1
25 kDa
β-actin
43 kDa
H
LRRK2
(Relative fold change)
4
3
2
1
0
Baseline
6M
12M
LRRK2
250 kDa
β-actin
43 kDa
I
FOXP3
(Relative fold change)
8
6
4
2
0
-2
Baseline
6M
12M
FOXP3
47 kDa
β-actin
43 kDa

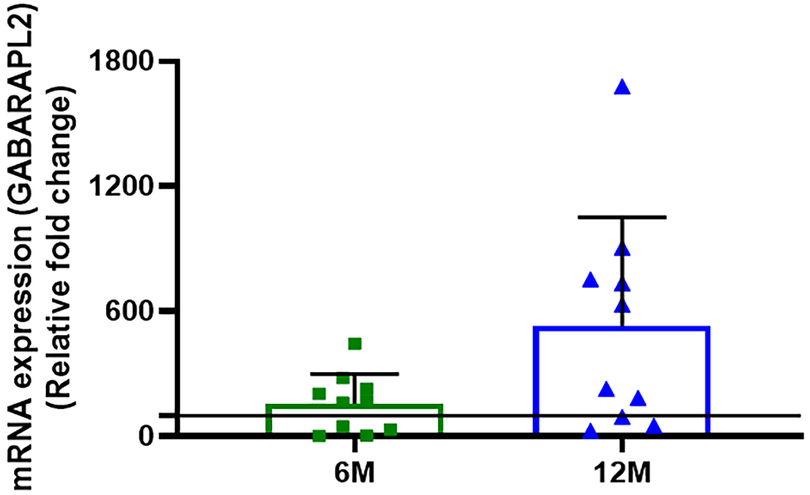
A


mRNA expression (ATG7)
(Relative fold change)
300
200
100
0
6M
12M

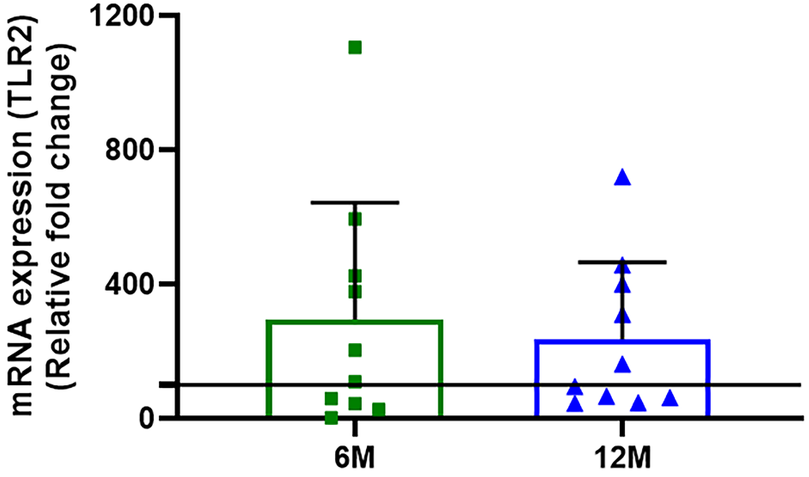
B


mRNA expression (ATG3)
(Relative fold change)
600
400
200
0
6M
12M

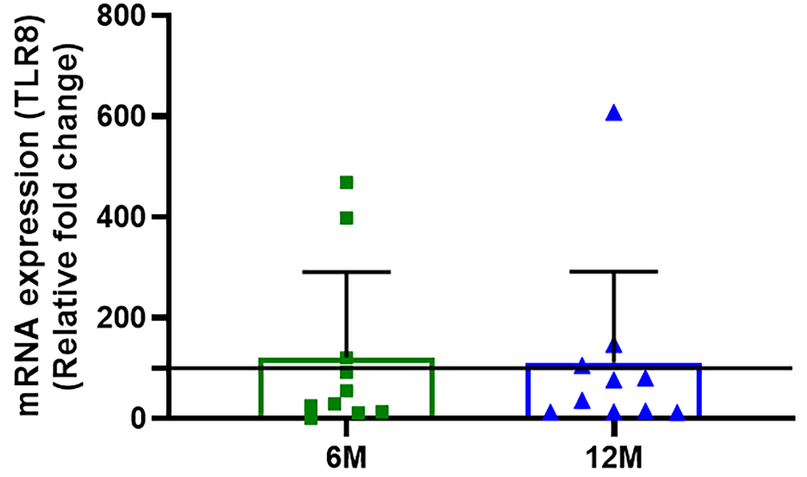
C


mRNA expression (GABARAPL2)
(Relative fold change)
1800
1200
600
0
6M
12M

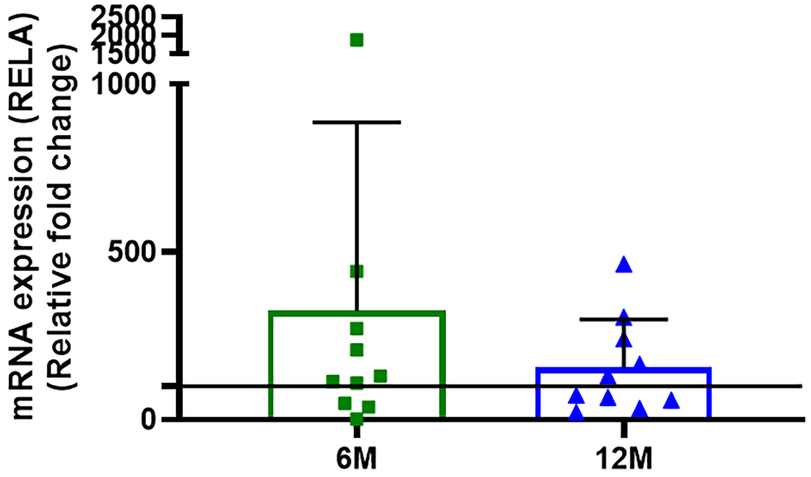
D


ssion (TLR2)
d change)
1200
800
400
0
6M
12M

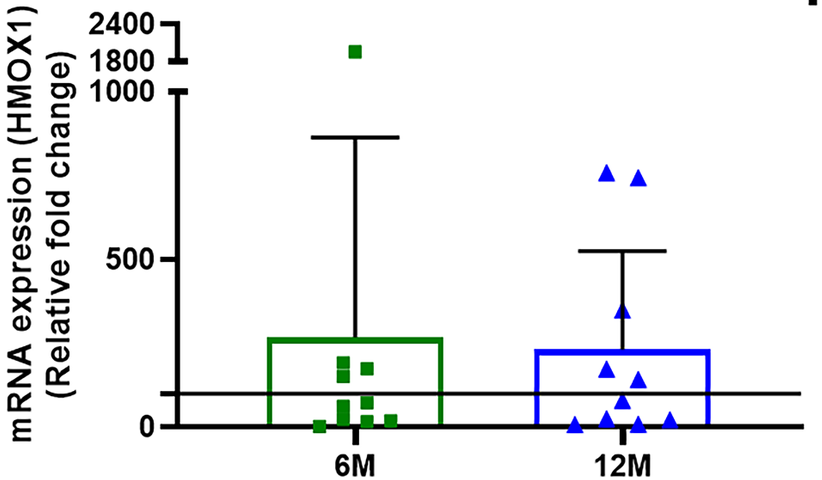
E


ssion (TLR8)
d change)
800
600
400
200
0
6M
12M

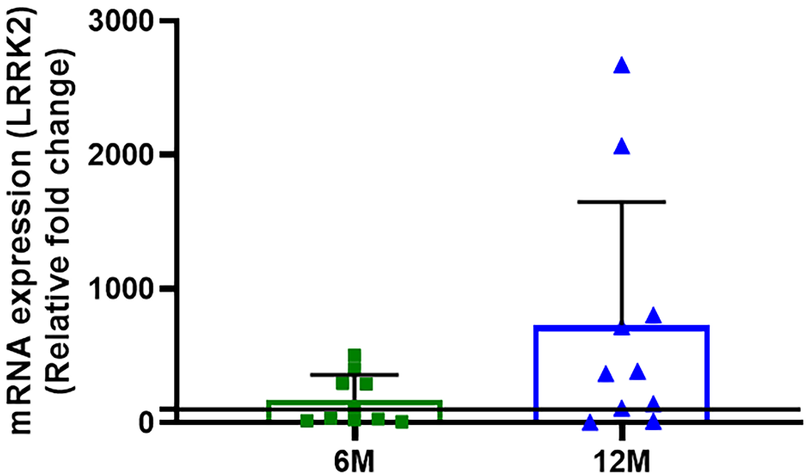
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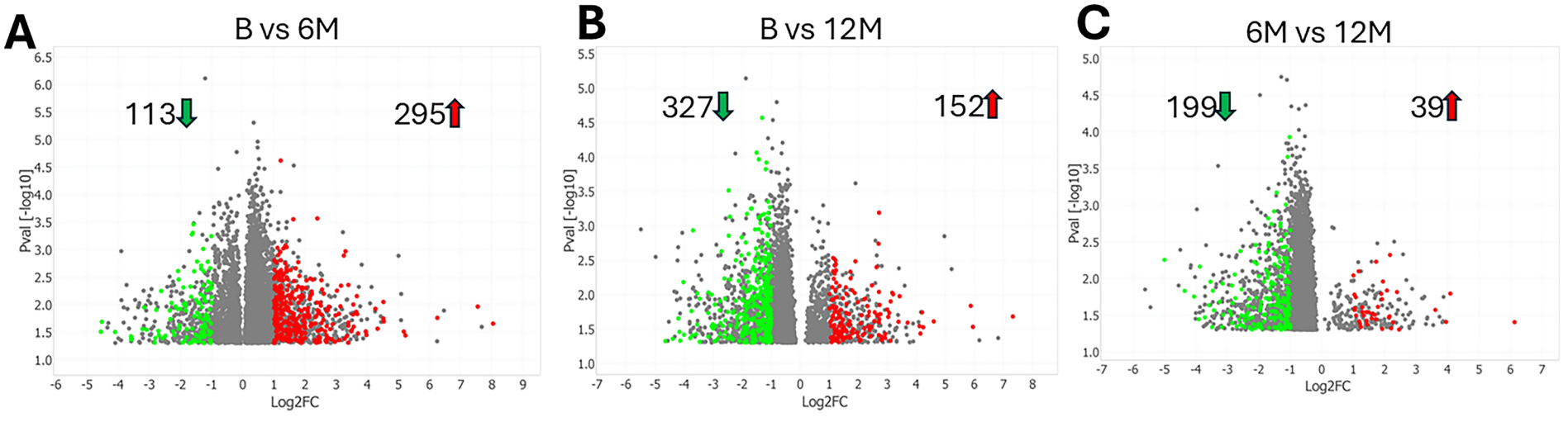

ssion (RELA)
d change)
2500
2000
1500
1000
500
0
6M
12M

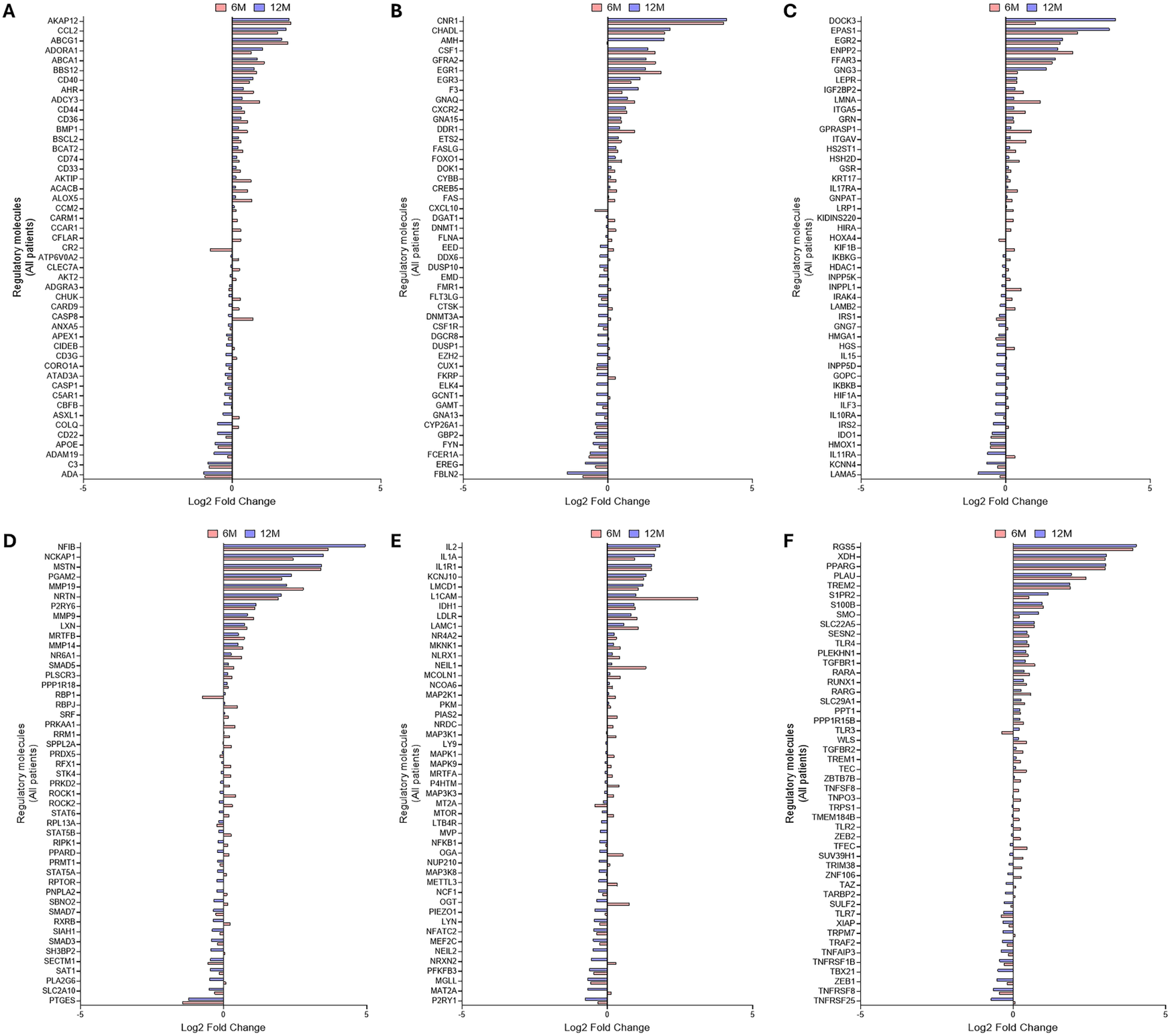
G


mRNA expression (HMOX1)
(Relative fold change)
2400
1800
1000
500
0
6M
12M

H


mRNA expression (LRRK2)
(Relative fold change)
3000
2000
1000
0
6M
12M


A
B vs 6M
113
295
Pval [-log10]
Log2FC
B
B vs 12M
327
152
Pval [-log10]
Log2FC
C
6M vs 12M
199
39
Pval [-log10]
Log2FC



Panel G: Correlational analysis of regulatory genes vs δ UPDRS III scores

Panel G Genes	*r*	*p value*	Genes	*r*	*p value*	Genes	*r*	*p value*	Genes	*r*	*p value*	Genes	*r*	*p value*
RGS5	0.57	0.01	***FAS***	-0.38	0.05	***PRDX5***	-0.46	0.02	***SUV39H1***	-0.52	0.01	***CYBB***	-0.44	0.03
ADORA1	0.48	0.02	***TLR4***	-0.38	0.05	***LYN***	-0.47	0.02	***PPT1***	-0.54	0.01	***SLC29A1***	-0.44	0.03
CXCL10	0.44	0.03	***DNMT1***	-0.38	0.05	***DNMT3A***	-0.47	0.02	***FLNA***	-0.54	0.01	***MRTFA***	-0.44	0.03
AKAP12	0.42	0.03	***EMD***	-0.39	0.05	***RUNX1***	-0.47	0.02	***MAPK9***	-0.54	0.01	***NCOA6***	-0.45	0.02
HOXA4	0.42	0.03	***TNFAIP3***	-0.39	0.04	***DGCR8***	-0.47	0.02	***TGFBR1***	-0.55	0.01	***CCM2***	-0.45	0.02
GNG3	0.41	0.03	***DDX6***	-0.40	0.04	***TGFBR2***	-0.47	0.02	***MAP3K1***	-0.55	0.01	***TREM1***	-0.45	0.02
DOCK3	0.39	0.04	***APEX1***	-0.40	0.04	***PLSCR3***	-0.48	0.02	***PRMT1***	-0.56	0.01	***ATP6V0A2***	-0.42	0.03
BBS12	0.38	0.05	***HMGA1***	-0.40	0.04	***PPP1R18***	-0.48	0.02	***AHR***	-0.42	0.03	***CBFB***	-0.42	0.03
RARA	-0.43	0.03	***EPAS1***	-0.41	0.04	***EGR1***	-0.48	0.02	***IL10RA***	-0.42	0.03	***SMAD7***	-0.42	0.03
S1PR2	-0.43	0.03	***ZBTB7B***	-0.41	0.04	***GNA15***	-0.48	0.02	***SRF***	-0.56	0.01	***TEC***	-0.42	0.03
PPARD	-0.43	0.03	***ATAD3A***	-0.41	0.04	***CD36***	-0.48	0.02	***ANXA5***	-0.57	0.01	***TMEM184B***	-0.42	0.03
CORO1A	-0.43	0.03	***STAT5B***	-0.41	0.04	***SESN2***	-0.50	0.01	***MAPK1***	-0.58	0.01	***NUP210***	-0.46	0.02
ELK4	-0.44	0.03	***IRS2***	-0.41	0.03	***CUX1***	-0.50	0.01	***MMP9***	-0.50	0.01	***STK4***	-0.46	0.02
PKM	-0.65	0.01	***ETS2***	-0.62	0.01	***SMAD5***	-0.51	0.01	***RPTOR***	-0.50	0.01	***AKT2***	-0.63	0.01
HDAC1	-0.65	0.01	***MAP2K1***	-0.62	0.01	***HIRA***	-0.51	0.01	***GSR***	-0.50	0.01	***FOXO1***	-0.59	0.01

Panel H: Simple linear regression analysis of regulatory genes vs δ UPDRS III scores

Panel H Genes	R^2	*p value*	Slope
AKT2	0.40	0.003	35.89
ANXA5	0.33	0.009	43.71
CD36	0.23	0.032	33.95
CUX1	0.25	0.026	34.81
GSR	0.25	0.023	38.36
MAPK1	0.33	0.008	28.26
MAPK9	0.29	0.014	45.44
PKM	0.42	0.002	31.44
PRDX5	0.21	0.040	48.66
RGS5	0.32	0.009	-0.9563
SUV39H1	0.27	0.018	34.62

Panel A: Correlational analysis of top hit genes vs δ UPDRS III scores

Panel A Genes	r	p value
HOXB5	**0.61**	**0.010**
NUP210L	**0.45**	**0.02**
KIAA1549L	**0.47**	**0.02**
GGT5	**0.44**	**0.03**
STAC	0.04	0.43
TMEM45B	-0.22	0.18
VXN	0.30	0.10
MOCOS	-0.15	0.26
FAM124A	-0.08	0.37
TSACC	0.04	0.44
NEXMIF	-0.24	0.16
ZPLD1	0.29	0.11
TBATA	0.13	0.29
TP53TG5	0.14	0.28
TRIM50	-0.20	0.20
BDKRB2	-0.18	0.23
PTPRB	-0.28	0.11
LAMC3	0.28	0.12
RAB19	0.16	0.24

Panel B: Simple Linear Regression analysis of top hit genes vs δ UPDRS III scores

Panel B Genes	R^2	*p value*	Slope
GGT5	**0.20**	**0.05**	**9.87**
STAC	0.00	0.86	-66.57
TMEM45B	0.05	0.35	23.62
VXN	0.09	0.19	-12.00
MOCOS	0.02	0.53	28.36
NUP210L	**0.20**	**0.05**	**-0.32**
FAM124A	0.01	0.74	58.27
TSACC	0.00	0.87	-107.40
HOXB5	**0.37**	**0.00**	**-4.91**
NEXMIF	0.06	0.32	20.64
KIAA1549L	**0.22**	**0.04**	**-3.55**
ZPLD1	0.08	0.23	-11.43
TBATA	0.02	0.58	-20.52
TP53TG5	0.02	0.57	-19.82
TRIM50	0.04	0.39	30.92
BDKRB2	0.03	0.45	25.02
PTPRB	0.08	0.22	11.82
LAMC3	0.08	0.23	-4.85
RAB19	0.03	0.49	-27.93

Panel C: Correlational analysis of top hit genes vs δ UPDRS III scores by subgroups

Panel C Genes	Potent		Modest		Stable	
	r	p value	r	p value	r	p value
RGS11	0.59	0.06	-0.62	0.10	0.16	0.38
RGS6	0.52	0.10	0.32	0.27	0.09	0.43
WNT5A	0.32	0.22	-0.24	0.33	-0.12	0.41
PRICKLE4	-0.01	0.49	0.45	0.18	**0.89**	**0.01**
PTPN14	-0.36	0.19	0.33	0.26	0.60	0.10
RASAL1	0.24	0.29	-0.36	0.24	0.17	0.37
GLIPR1L2	-0.28	0.25	0.14	0.39	**0.73**	**0.05**
CHRD	-0.38	0.18	**-0.74**	**0.05**	-0.63	0.09
LY6G6F	-0.08	0.43	0.38	0.23	0.13	0.41
ARL10	-0.09	0.42	-0.19	0.36	-0.44	0.19
CYP7B1	**0.67**	**0.03**	0.70	0.06	-0.37	0.23
CACNG6	0.28	0.25	0.51	0.15	0.69	0.06
MAGI2	0.36	0.19	0.61	0.10	-0.05	0.46
CFAP53	-0.04	0.46	**-0.77**	**0.04**	-0.44	0.19
ESPL1	0.00	0.50	**-0.79**	**0.03**	0.45	0.18
FILIP1L	0.29	0.25	0.29	0.29	0.35	0.25
GTF2F1	-0.47	0.12	-0.06	0.45	-0.27	0.30
TXNRD2	-0.52	0.09	-0.64	0.08	-0.26	0.31
TFDP1	-0.61	0.05	-0.34	0.25	-0.73	0.05
ANXA9	**0.86**	**0.01**	0.25	0.32	-0.30	0.28
CALM3	**-0.63**	**0.05**	0.11	0.42	-0.54	0.14
TADA3	-0.53	0.09	0.13	0.40	-0.69	0.06
CCDC68	-0.53	0.09	**-0.80**	**0.03**	-0.30	0.28
FAM167A	0.02	0.48	0.14	0.40	-0.26	0.31
MCM10	0.50	0.11	0.30	0.28	0.45	0.19
RS1	0.25	0.28	-0.33	0.26	0.40	0.22
GRAMD2A	-0.09	0.41	0.38	0.23	-0.67	0.07
CDKN1C	-0.52	0.09	0.22	0.34	-0.08	0.44
ETV1	0.49	0.11	0.07	0.45	-0.13	0.40
IGFBP6	0.27	0.26	**-0.82**	**0.02**	0.58	0.11
DUBR	0.47	0.12	**-0.82**	**0.02**	0.68	0.07
TNS4	0.17	0.35	0.53	0.14	-0.44	0.19

Panel D: Simple linear regression analysis of top hit genes vs δ UPDRS III scores by subgroups

Panel D Genes	Potent			Modest			Stable		
	R2	*p value*	Slope	R2	*p value*	Slope	R2	*p value*	Slope
RGS11	0.34	0.13	4.38	0.38	0.19	7.82	0.03	0.76	-16.64
RGS6	0.27	0.19	3.01	0.10	0.54	-3.84	0.01	0.86	-31.75
WNT5A	0.10	0.44	-1.85	0.06	0.65	14.98	0.01	0.82	22.61
PRICKLE4	0.00	0.98	477.70	0.21	0.37	-16.50	**0.80**	**0.02**	**-3.43**
PTPN14	0.13	0.38	13.98	0.11	0.53	-4.15	0.36	0.21	-7.24
RASAL1	0.06	0.57	-1.32	0.13	0.49	12.48	0.03	0.74	-14.37
GLIPR1L2	0.08	0.51	18.63	0.02	0.79	-22.15	0.54	0.10	-3.95
CHRD	0.14	0.36	15.52	0.55	0.09	15.62	0.40	0.18	2.85
LY6G6F	0.01	0.85	69.25	0.14	0.46	-8.48	0.02	0.81	-29.03
ARL10	0.01	0.83	58.15	0.04	0.71	22.29	0.19	0.38	11.50
CYP7B1	0.45	0.07	3.79	0.49	0.12	-5.25	0.14	0.47	6.38
CACNG6	0.08	0.50	-10.88	0.26	0.30	-19.60	0.48	0.13	-5.27
MAGI2	0.13	0.38	-12.00	0.38	0.19	-16.40	0.00	0.93	156.30
CFAP53	0.00	0.92	59.24	0.60	0.07	8.41	0.19	0.38	11.82
ESPL1	0.00	1.00	-4974.00	0.62	0.06	15.84	0.21	0.37	-22.95
FILIP1L	0.08	0.49	-6.10	0.09	0.57	-42.55	0.12	0.50	-27.36
GTF2F1	0.22	0.24	30.70	0.00	0.91	756.30	0.07	0.60	160.10
TXNRD2	0.27	0.19	36.67	0.41	0.17	121.40	0.07	0.62	67.85
TFDP1	0.37	0.11	25.47	0.12	0.51	70.01	0.53	0.10	20.64
ANXA9	**0.75**	**0.01**	**-1.26**	0.06	0.63	-36.52	0.09	0.56	11.06
CALM3	0.39	0.10	26.13	0.01	0.84	-208.90	0.29	0.27	23.71
TADA3	0.28	0.18	29.56	0.02	0.80	-224.30	0.48	0.13	30.09
CCDC68	0.28	0.18	14.88	0.64	0.06	5.64	0.09	0.57	9.60
FAM167A	0.00	0.96	-165.80	0.02	0.80	-71.38	0.07	0.62	25.75
MCM10	0.25	0.21	3.32	0.09	0.56	-42.53	0.20	0.37	-3.96
RS1	0.06	0.55	-5.76	0.11	0.52	8.91	0.16	0.43	-7.55
GRAMD2A	0.01	0.82	51.61	0.15	0.45	-4.97	0.45	0.15	2.20
CDKN1C	0.27	0.18	19.37	0.05	0.67	-14.75	0.01	0.88	28.97
ETV1	0.24	0.22	0.64	0.00	0.90	-51.58	0.02	0.81	37.28
IGFBP6	0.07	0.53	-4.86	**0.67**	**0.05**	**7.53**	0.34	0.22	-7.07
DUBR	0.22	0.25	1.73	**0.67**	**0.05**	**6.20**	0.46	0.14	-4.77
TNS4	0.03	0.69	-22.30	0.28	0.28	-10.69	0.20	0.38	3.70

Panel A: Correlational analysis of regulatory genes vs δ UPDRS III scores

Panel A Genes	r	p value	Genes	r	p value	Genes	r	p value	Genes	r	p value	Genes	r	p value
RGS5	0.57	0.01	*FAS*	-0.38	0.05	*PRDX5*	-0.46	0.02	*SUV39H1*	-0.52	0.01	*CYBB*	-0.44	0.03
ADORA1	0.48	0.02	*TLR4*	-0.38	0.05	*LYN*	-0.47	0.02	*PPT1*	-0.54	0.01	*SLC29A1*	-0.44	0.03
CXCL10	0.44	0.03	*DNMT1*	-0.38	0.05	*DNMT3A*	-0.47	0.02	*FLNA*	-0.54	0.01	*MRTFA*	-0.44	0.03
AKAP12	0.42	0.03	*EMD*	-0.39	0.05	*RUNX1*	-0.47	0.02	*MAPK9*	-0.54	0.01	*NCOA6*	-0.45	0.02
HOXA4	0.42	0.03	*TNFAIP3*	-0.39	0.04	*DGCR8*	-0.47	0.02	*TGFBR1*	-0.55	0.01	*CCM2*	-0.45	0.02
GNG3	0.41	0.03	*DDX6*	-0.40	0.04	*TGFBR2*	-0.47	0.02	*MAP3K1*	-0.55	0.01	*TREM1*	-0.45	0.02
DOCK3	0.39	0.04	*APEX1*	-0.40	0.04	*PLSCR3*	-0.48	0.02	*PRMT1*	-0.56	0.01	*ATP6V0A2*	-0.42	0.03
BBS12	0.38	0.05	*HMGA1*	-0.40	0.04	*PPP1R18*	-0.48	0.02	*AHR*	-0.42	0.03	*CBFB*	-0.42	0.03
RARA	-0.43	0.03	*EPAS1*	-0.41	0.04	*EGR1*	-0.48	0.02	*IL10RA*	-0.42	0.03	*SMAD7*	-0.42	0.03
S1PR2	-0.43	0.03	*ZBTB7B*	-0.41	0.04	*GNA15*	-0.48	0.02	*SRF*	-0.56	0.01	*TEC*	-0.42	0.03
PPARD	-0.43	0.03	*ATAD3A*	-0.41	0.04	*CD36*	-0.48	0.02	*ANXA5*	-0.57	0.01	*TMEM184B*	-0.42	0.03
CORO1A	-0.43	0.03	*STAT5B*	-0.41	0.04	*SESN2*	-0.50	0.01	*MAPK1*	-0.58	0.01	*NUP210*	-0.46	0.02
ELK4	-0.44	0.03	*IRS2*	-0.41	0.03	*CUX1*	-0.50	0.01	*MMP9*	-0.50	0.01	*STK4*	-0.46	0.02
PKM	-0.65	0.01	*ETS2*	-0.62	0.01	*SMAD5*	-0.51	0.01	*RPTOR*	-0.50	0.01	*AKT2*	-0.63	0.01
HDAC1	-0.65	0.01	*MAP2K1*	-0.62	0.01	*HIRA*	-0.51	0.01	*GSR*	-0.50	0.01	*FOXO1*	-0.59	0.01

Panel B: Simple linear regression analysis of regulatory genes vs δ UPDRS III scores

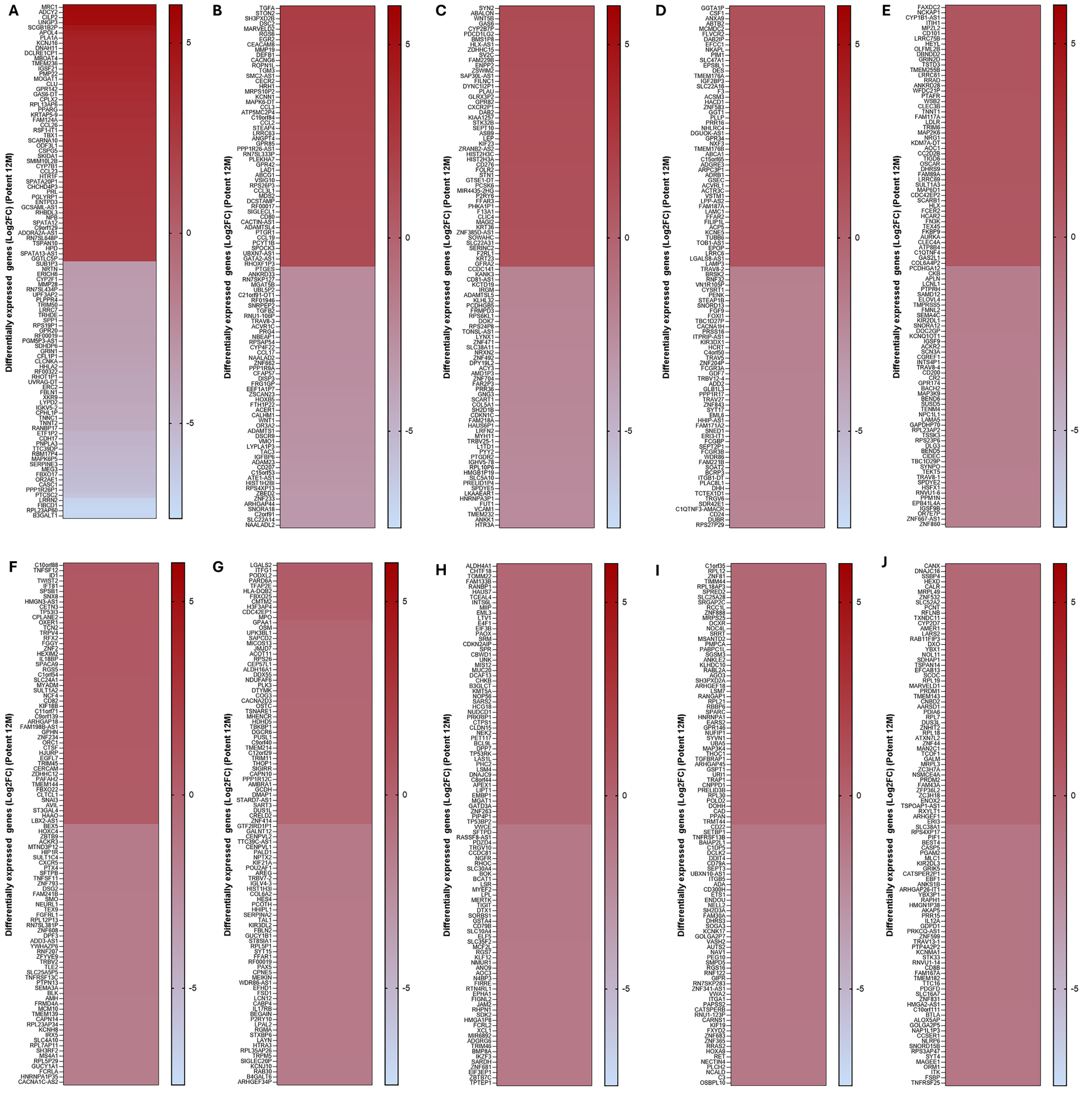
Panel B: Genes	R2	p value	Slope	Genes	R2	p value	Slope
ADORA1	0.24	0.030	-8.162	*MMP9*	0.25	0.023	22.57
AKT2	0.40	0.003	35.89	*NCOA6*	0.20	0.049	45.36
ANXA5	0.33	0.009	43.71	*NUP210*	0.21	0.043	39.63
CCM2	0.20	0.048	58.08	*PKM*	0.42	0.002	31.44
CD36	0.23	0.032	33.95	*PLSCR3*	0.23	0.034	44.11
CUX1	0.25	0.026	34.81	*PPP1R18*	0.23	0.033	45.73
DGCR8	0.22	0.036	40.4	*PPT1*	0.29	0.015	37.33
DNMT3A	0.22	0.038	35.33	*PRDX5*	0.21	0.040	48.66
EGR1	0.23	0.033	15.3	*PRMT1*	0.31	0.010	42.47
ETS2	0.38	0.004	15.79	*RGS5*	0.32	0.009	-0.9563
FLNA	0.29	0.014	44.44	*RPTOR*	0.25	0.023	46.33
FOXO1	0.35	0.006	22.09	*RUNX1*	0.22	0.037	26.99
GNA15	0.23	0.032	25.89	*SESN2*	0.25	0.026	32.08
GSR	0.25	0.023	38.36	*SMAD5*	0.26	0.022	26.69
HDAC1	0.42	0.002	38.17	*SRF*	0.32	0.010	39.78
HIRA	0.26	0.021	39.3	*STK4*	0.21	0.040	39.96
LYN	0.22	0.039	35.41	*SUV39H1*	0.27	0.018	34.62
MAP2K1	0.38	0.004	32	*TGFBR1*	0.30	0.012	21.28
MAP3K1	0.30	0.012	31.86	*TGFBR2*	0.22	0.036	35.43
MAPK1	0.33	0.008	28.26	*TREM1*	0.21	0.04	46.18
MAPK9	0.29	0.014	45.44				

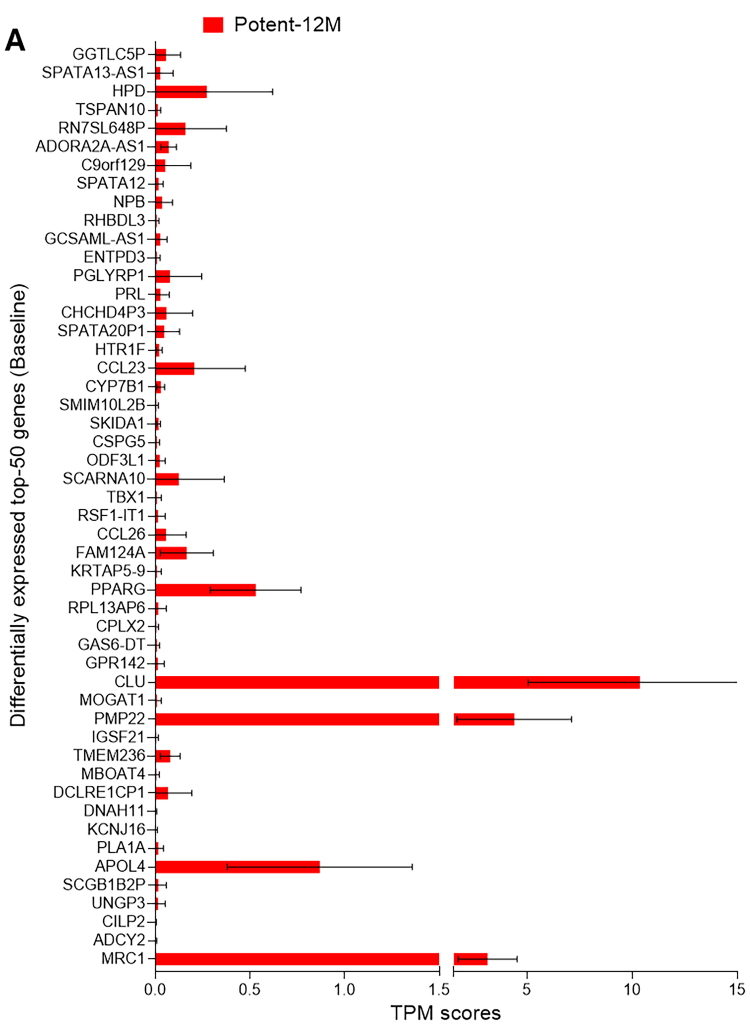
Panel C: Correlational analysis of regulatory genes vs δ UPDRS III scores by subgroups

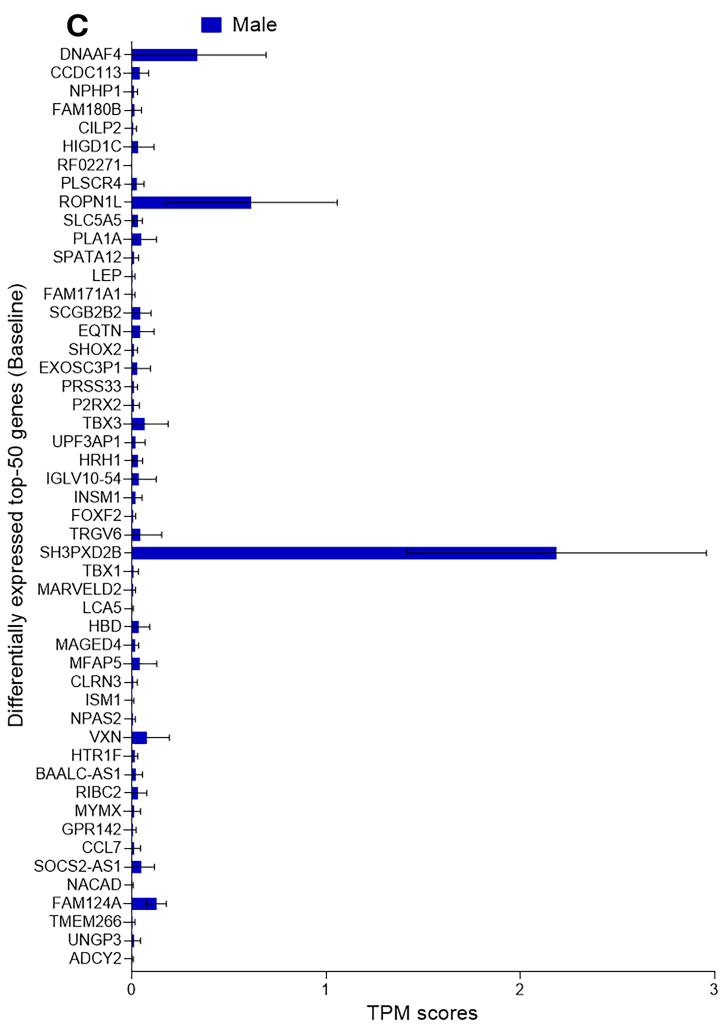
Panel C Genes	Potent		Modest		Stable		Genes	Potent		Modest		Stable	
	r	p value	r	p value	r	p value		r	p value	r	p value	r	p value
ABCC6	-0.36	0.19	0.21	0.34	0.61	0.10	*NOTCH1*	-0.51	0.10	-0.44	0.19	-0.47	0.17
ADRB2	-0.41	0.15	-0.71	0.06	-0.52	0.14	*NR1H3*	-0.46	0.13	0.25	0.32	-0.39	0.22
BTLA	0.15	0.36	0.38	0.23	-0.23	0.33	*NR2F6*	-0.77	0.01	-0.35	0.25	-0.28	0.30
CARD9	-0.56	0.07	-0.22	0.34	-0.21	0.35	*NRDC*	-0.53	0.09	-0.51	0.15	-0.83	0.02
CRTC3	-0.62	0.05	-0.57	0.12	-0.76	0.04	*P2RY1*	-0.45	0.13	-0.15	0.39	-0.30	0.28
CUX1	-0.61	0.05	0.31	0.28	-0.58	0.11	*PDCD1*	0.26	0.27	0.56	0.13	-0.07	0.45
CXCR5	0.03	0.47	-0.23	0.33	0.12	0.41	*PDIA3*	-0.63	0.05	-0.27	0.30	-0.69	0.06
DNAJA3	-0.40	0.17	0.52	0.14	0.04	0.47	*PIP5K1C*	-0.56	0.08	-0.08	0.44	-0.94	0.01
GAA	-0.42	0.15	-0.08	0.44	-0.37	0.23	*PLK1*	0.31	0.23	-0.21	0.34	0.42	0.34
GNB5	-0.35	0.20	-0.25	0.32	-0.70	0.06	*POU2AF1*	-0.04	0.47	-0.25	0.32	0.14	0.40
GRN	-0.55	0.08	0.40	0.21	-0.53	0.14	*PRF1*	-0.60	0.06	0.12	0.41	-0.09	0.43
GUCY1B1	-0.26	0.26	0.24	0.32	-0.28	0.29	*PRL*	-0.22	0.30	-0.66	0.08	0.69	0.06
HDAC3	-0.59	0.06	-0.40	0.21	-0.46	0.18	*PTEN*	-0.50	0.10	0.29	0.29	-0.72	0.05
HDAC4	-0.64	0.04	-0.58	0.11	-0.34	0.26	*REST*	-0.69	0.03	-0.06	0.45	-0.82	0.02
HLTF	0.17	0.35	-0.42	0.20	-0.44	0.19	*RGS1*	-0.44	0.14	0.41	0.21	-0.19	0.36
HMGB2	-0.76	0.01	-0.05	0.47	-0.52	0.15	*SACS*	-0.64	0.04	-0.18	0.37	-0.04	0.47
HOXA1	-0.15	0.36	-0.37	0.23	-0.42	0.20	*SIK3*	-0.54	0.09	-0.23	0.33	-0.58	0.11
IRF1	-0.08	0.42	0.29	0.29	-0.39	0.22	*SLAMF7*	-0.08	0.43	0.50	0.16	-0.38	0.23
IRF4	-0.58	0.06	-0.33	0.26	-0.55	0.13	*SOX4*	-0.71	0.02	0.47	0.17	-0.26	0.31
IRF8	-0.46	0.12	-0.35	0.25	-0.56	0.12	*SPINT1*	-0.38	0.17	0.48	0.17	-0.67	0.07
KIFC3	-0.48	0.11	-0.55	0.13	-0.27	0.31	*SPPL2A*	-0.52	0.09	-0.10	0.43	-0.67	0.07
KLHL22	-0.47	0.12	-0.08	0.44	-0.22	0.33	*SPRY1*	-0.51	0.10	-0.55	0.13	-0.62	0.09
LGALS1	-0.52	0.09	0.10	0.42	-0.37	0.23	*STAT5B*	-0.56	0.07	-0.79	0.03	-0.67	0.03
LRP8	-0.31	0.23	-0.76	0.04	-0.37	0.23	*TFB1M*	-0.44	0.14	-0.10	0.43	0.27	0.43
MARK4	-0.49	0.11	0.21	0.35	0.08	0.44	*TWF2*	-0.61	0.05	-0.23	0.33	-0.72	0.05
MERTK	-0.44	0.14	0.32	0.27	-0.06	0.46	*VPS54*	-0.36	0.19	-0.48	0.17	-0.55	0.13

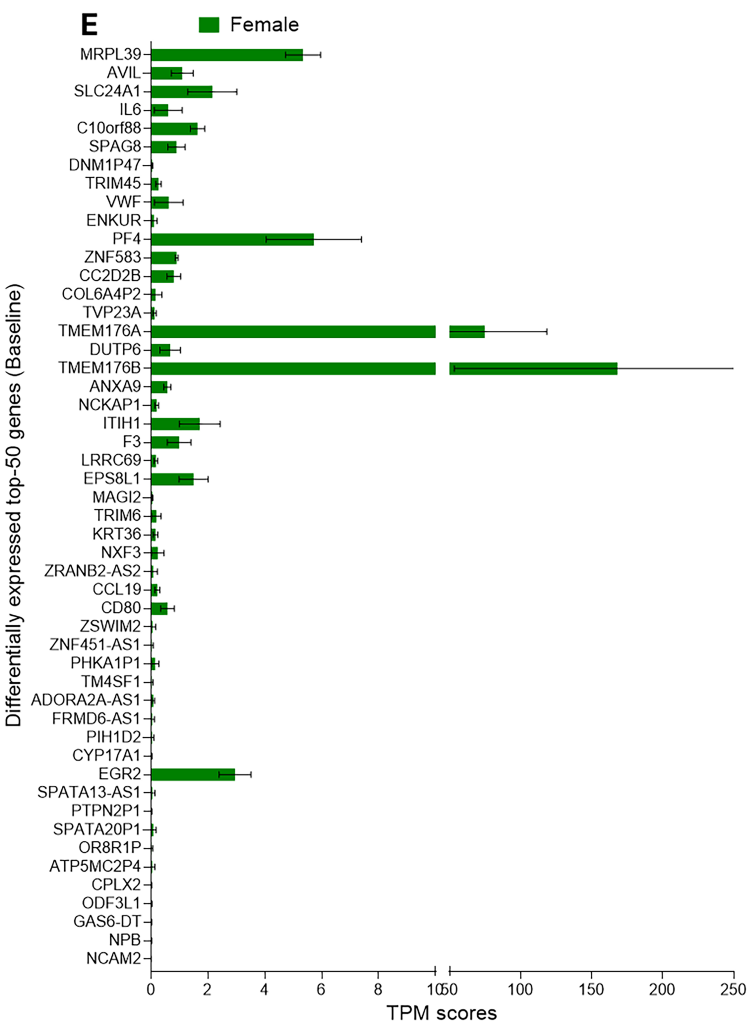
Panel D: Simple linear regression analysis of regulatory genes vs δ UPDRS III scores by subgroups

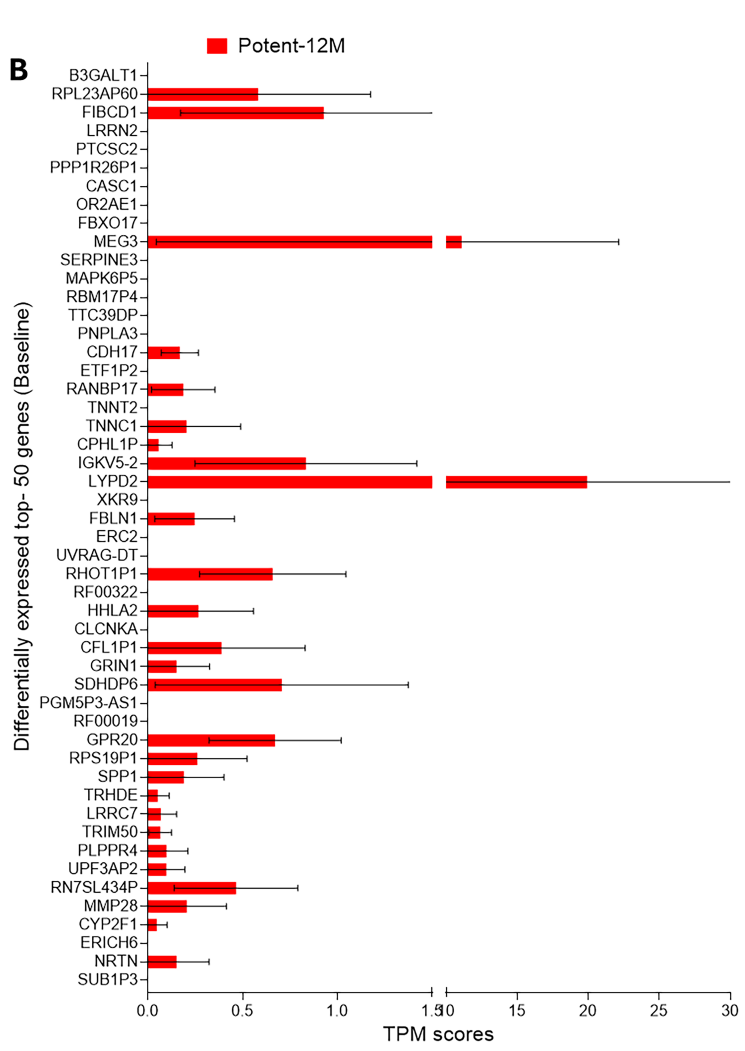
Panel D Genes	Potent			Modest			Stable			Genes	Potent			Modest			Stable		
	R2	p value	Slope	R2	p value	Slope	R2	p value	Slope		R2	p value	Slope	R2	p value	Slope	R2	p value	Slope
ABCC6	0.13	0.38	-0.05	0.05	0.68	0.01	0.37	0.20	0.06	*NOTCH1*	0.26	0.20	-0.06	0.19	0.38	-0.02	0.22	0.34	-0.07
ADRB2	0.17	0.31	-0.06	0.50	0.12	-0.15	0.27	0.29	-0.08	*NR1H3*	0.21	0.26	-0.06	0.06	0.64	0.03	0.15	0.45	-0.02
BTLA	0.02	0.71	0.01	0.15	0.45	0.03	0.05	0.66	-0.15	*NR2F6*	0.59	0.03	-0.05	0.12	0.50	-0.02	0.08	0.60	-0.02
CARD9	0.32	0.15	-0.05	0.05	0.68	-0.01	0.04	0.70	-0.01	*NRDC*	0.29	0.17	-0.05	0.26	0.30	-0.02	0.69	0.04	-0.03
CRTC3	0.38	0.10	-0.06	0.32	0.24	-0.01	0.58	0.08	-0.08	*P2RY1*	0.20	0.27	-0.04	0.02	0.78	-0.01	0.09	0.56	-0.05
CUX1	0.37	0.11	-0.04	0.10	0.55	0.01	0.34	0.23	-0.04	*PDCD1*	0.07	0.53	0.06	0.31	0.25	0.04	0.01	0.89	-0.03
CXCR5	0.00	0.95	0.00	0.05	0.66	-0.01	0.02	0.82	0.02	*PDIA3*	0.40	0.09	-0.04	0.07	0.61	0.00	0.48	0.13	-0.09
DNAJA3	0.16	0.33	-0.02	0.28	0.29	0.02	0.00	0.93	0.00	*PIP5K1C*	0.31	0.15	-0.05	0.01	0.89	0.00	0.88	0.01	-0.08
GAA	0.18	0.30	-0.05	0.01	0.88	0.00	0.14	0.47	-0.04	*PLK1*	0.10	0.46	0.04	0.05	0.69	-0.01	0.18	0.40	0.07
GNB5	0.12	0.40	-0.03	0.06	0.63	-0.01	0.49	0.12	-0.09	*POU2AF1*	0.00	0.93	0.00	0.06	0.63	-0.02	0.02	0.79	0.03
GRN	0.30	0.16	-0.05	0.16	0.43	0.03	0.28	0.28	-0.04	*PRF1*	0.36	0.11	-0.06	0.01	0.82	0.01	0.01	0.86	-0.04
GUCY1B1	0.07	0.53	-0.01	0.06	0.64	0.03	0.08	0.58	-0.05	*PRL*	0.05	0.61	-0.23	0.43	0.16	-0.06	0.48	0.13	0.81
HDAC3	0.35	0.13	-0.05	0.16	0.43	-0.01	0.21	0.36	-0.02	*PTEN*	0.25	0.21	-0.05	0.08	0.58	0.01	0.52	0.11	-0.08
HDAC4	0.41	0.09	-0.07	0.34	0.23	-0.03	0.11	0.51	-0.03	*REST*	0.48	0.06	-0.06	0.00	0.91	0.00	0.66	0.05	-0.10
HLTF	0.03	0.69	0.04	0.18	0.40	-0.03	0.19	0.38	-0.07	*RGS1*	0.20	0.27	-0.03	0.17	0.42	0.02	0.04	0.72	-0.05
HMGB2	0.58	0.03	-0.07	0.00	0.93	0.00	0.27	0.29	-0.01	*SACS*	0.41	0.09	-0.05	0.03	0.73	-0.01	0.00	0.94	-0.01
HOXA1	0.02	0.72	-0.01	0.14	0.47	-0.01	0.18	0.40	-0.04	*SIK3*	0.29	0.17	-0.05	0.05	0.67	-0.01	0.34	0.23	-0.06
IRF1	0.01	0.85	-0.01	0.08	0.58	0.01	0.15	0.45	-0.02	*SLAMF7*	0.01	0.86	0.00	0.25	0.31	0.04	0.14	0.46	-0.04
IRF4	0.34	0.13	-0.06	0.11	0.52	-0.02	0.30	0.26	-0.06	*SOX4*	0.51	0.05	-0.09	0.22	0.35	0.02	0.07	0.61	-0.04
IRF8	0.21	0.25	-0.05	0.12	0.50	-0.01	0.32	0.24	-0.06	*SPINT1*	0.15	0.35	-0.04	0.23	0.33	0.02	0.44	0.15	-0.04
KIFC3	0.23	0.23	-0.05	0.30	0.26	-0.06	0.07	0.61	-0.06	*SPPL2A*	0.28	0.18	-0.05	0.01	0.86	0.00	0.45	0.14	-0.06
KLHL22	0.22	0.24	-0.04	0.01	0.88	0.00	0.05	0.67	-0.01	*SPRY1*	0.26	0.20	-0.08	0.30	0.26	-0.17	0.39	0.19	-0.36
LGALS1	0.27	0.19	-0.05	0.01	0.85	0.01	0.14	0.47	-0.03	*STAT5B*	0.32	0.15	-0.06	0.63	0.06	-0.02	0.45	0.14	-0.07
LRP8	0.10	0.45	-0.09	0.58	0.08	-0.19	0.14	0.46	-0.08	*TFB1M*	0.19	0.27	-0.02	0.01	0.85	-0.01	0.07	0.61	0.02
MARK4	0.24	0.22	-0.05	0.04	0.69	0.02	0.01	0.89	0.01	*TWF2*	0.37	0.11	-0.05	0.05	0.67	-0.01	0.52	0.11	-0.06
MERTK	0.19	0.27	-0.03	0.10	0.54	0.03	0.00	0.92	-0.01	*VPS54*	0.13	0.38	-0.04	0.23	0.34	-0.01	0.31	0.25	-0.05

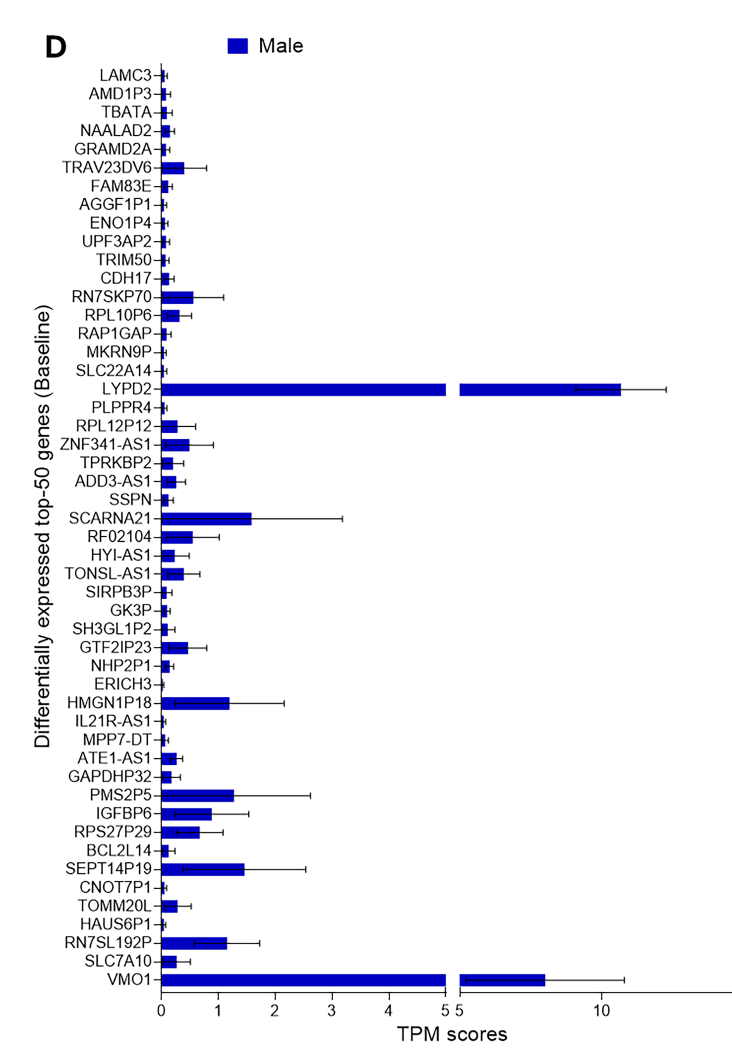

A
B
C
D
E
F
G
H
I
J
Differentially expressed genes (Log2FC) (Potent 12M)
5
0
-5

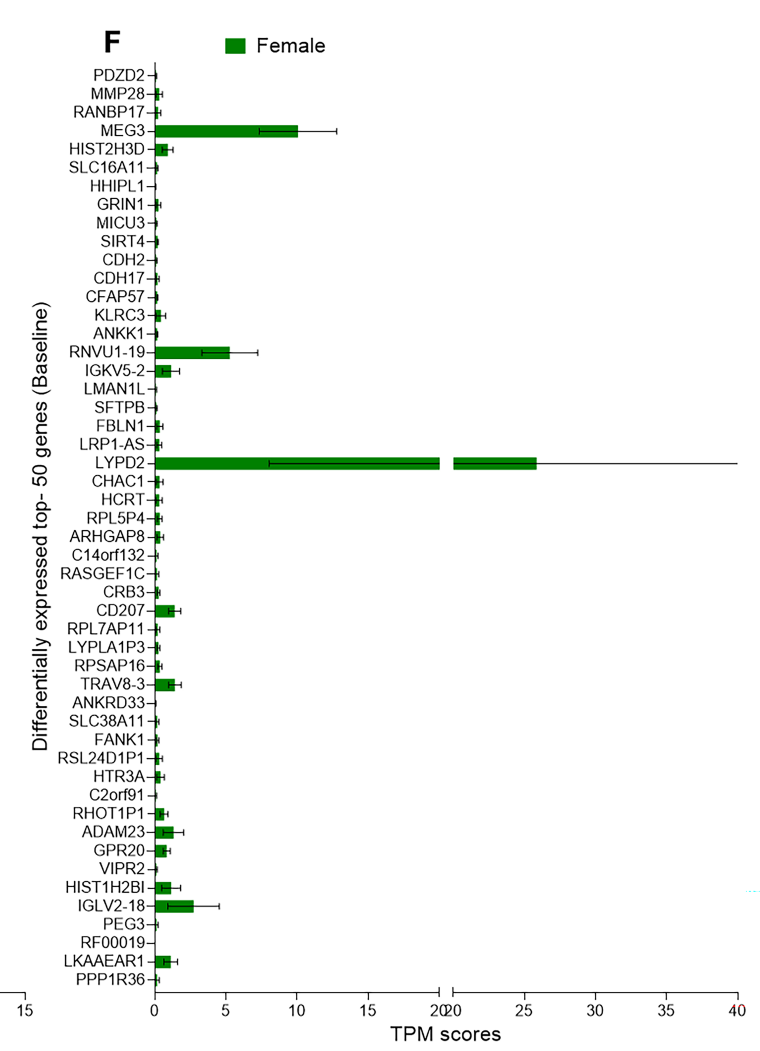

A
Potent-12M
Differentially expressed top-50 genes (Baseline)
GGTLC5P
SPATA13-AS1
HPD
TSPAN10
RN7SL648P
ADORA2A-AS1
C9orf129
SPATA12
NPB
RHBDL3
GCSAML-AS1
ENTPD3
PGLYRP1
PRL
CHCHD4P3
SPATA20P1
HTR1F
CCL23
CYP7B1
SMIM10L2B
SKIDA1
CSPG5
ODF3L1
SCARNA10
TBX1
RSF1-IT1
CCL26
FAM124A
KRTAP5-9
PPARG
RPL13AP6
CPLX2
GAS6-DT
GPR142
CLU
MOGAT1
PMP22
IGSF21
TMEM236
MBOAT4
DCLRE1CP1
DNAH11
KCNJ16
PLA1A
APOL4
SCGB1B2P
UNGP3
CILP2
ADCY2
MRC1
0.0
0.5
1.0
1.5
5
10
15
TPM scores


C
Male
Differentially expressed top-50 genes (Baseline)
DNAAF4
CCDC113
NPHP1
FAM180B
CILP2
HIGD1C
RF02271
PLSCR4
ROPN1L
SLC5A5
PLA1A
SPATA12
LEP
FAM171A1
SCGB2B2
EQTN
SHOX2
EXOSC3P1
PRSS33
P2RX2
TBX3
UPF3AP1
HRH1
IGLV10-54
INSM1
FOXF2
TRGV6
SH3PXD2B
TBX1
MARVELD2
LCA5
HBD
MAGED4
MFAP5
CLRN3
ISM1
NPAS2
VXN
HTR1F
BAALC-AS1
RIBC2
MYMX
GPR142
CCL7
SOCS2-AS1
NACAD
FAM124A
TMEM266
UNGP3
ADCY2
0
1
2
3
TPM scores


E
Female
Differentially expressed top-50 genes (Baseline)
MRPL39
AVIL
SLC24A1
IL6
C10orf88
SPAG8
DNM1P47
TRIM45
VWF
ENKUR
PF4
ZNF583
CC2D2B
COL6A4P2
TVP23A
TMEM176A
DUTP6
TMEM176B
ANXA9
NCKAP1
ITIH1
F3
LRRC69
EPS8L1
MAGI2
TRIM6
KRT36
NXF3
ZRANB2-AS2
CCL19
CD80
ZSWIM2
ZNF451-AS1
PHKA1P1
TM4SF1
ADORA2A-AS1
FRMD6-AS1
PIH1D2
CYP17A1
EGR2
SPATA13-AS1
PTPN2P1
SPATA20P1
OR8R1P
ATP5MC2P4
CPLX2
ODF3L1
GAS6-DT
NPB
NCAM2
0
2
4
6
8
50
100
150
200
250
TPM scores

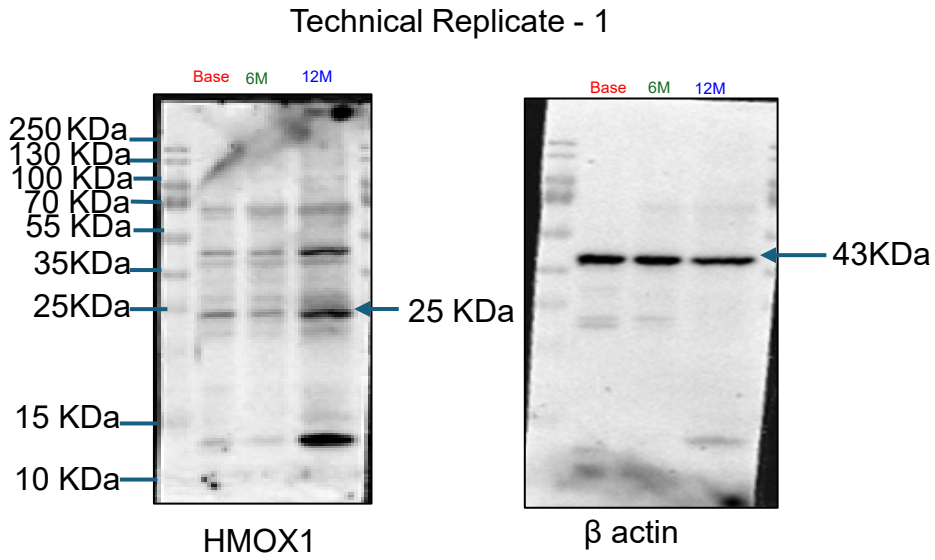

B
Potent-12M
Differentially expressed top- 50 genes (Baseline)
B3GALT1
RPL23AP60
FIBCD1
LRRN2
PTCSC2
PPP1R26P1
CASC1
OR2AE1
FBXO17
MEG3
SERPINE3
MAPK6P5
RBM17P4
TTC39DP
PNPLA3
CDH17
ETF1P2
RANBP17
TNNT2
TNNC1
CPHL1P
IGKV5-2
LYPD2
XKR9
FBLN1
ERC2
UVRAG-DT
RHOT1P1
RF00322
HHLA2
CLCNKA
CFL1P1
GRIN1
SDHDP6
PGM5P3-AS1
RF00019
GPR20
RPS19P1
SPP1
TRHDE
LRRC7
TRIM50
PLPPR4
UPF3AP2
RN7SL434P
MMP28
CYP2F1
ERICH6
NRTN
SUB1P3
0.0
0.5
1.0
1.5
10
15
20
25
30
TPM scores

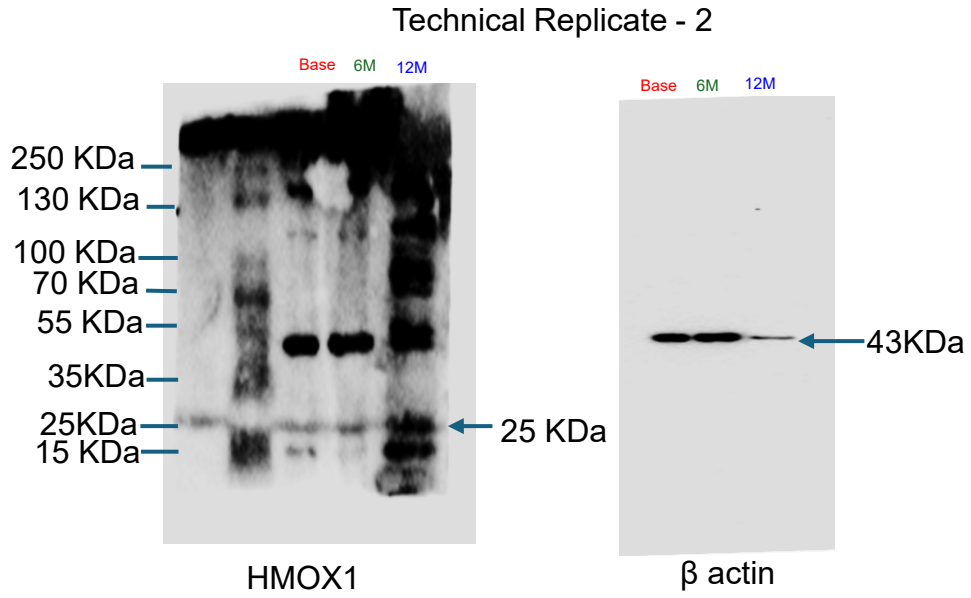

D
Male
Differentially expressed top-50 genes (Baseline)
LAMC3
AMD1P3
TBATA
NAALAD2
GRAMD2A
TRAV23DV6
FAM83E
AGGF1P1
ENO1P4
UPF3AP2
TRIM50
CDH17
RN7SKP70
RPL10P6
RAP1GAP
MKRN9P
SLC22A14
LYPD2
PLPPR4
RPL12P12
ZNF341-AS1
TPRKBP2
ADD3-AS1
SSPN
SCARNA21
RF02104
HYI-AS1
TONSL-AS1
SIRPB3P
GK3P
SH3GL1P2
GTF2IP23
NHP2P1
ERICH3
HMGN1P18
IL21R-AS1
MPP7-DT
ATE1-AS1
GAPDHP32
PMS2P5
IGFBP6
RPS27P29
BCL2L14
SEPT14P19
CNOT7P1
TOMM20L
HAUS6P1
RN7SL192P
SLC7A10
VMO1
0
1
2
3
4
5
10
15
TPM scores

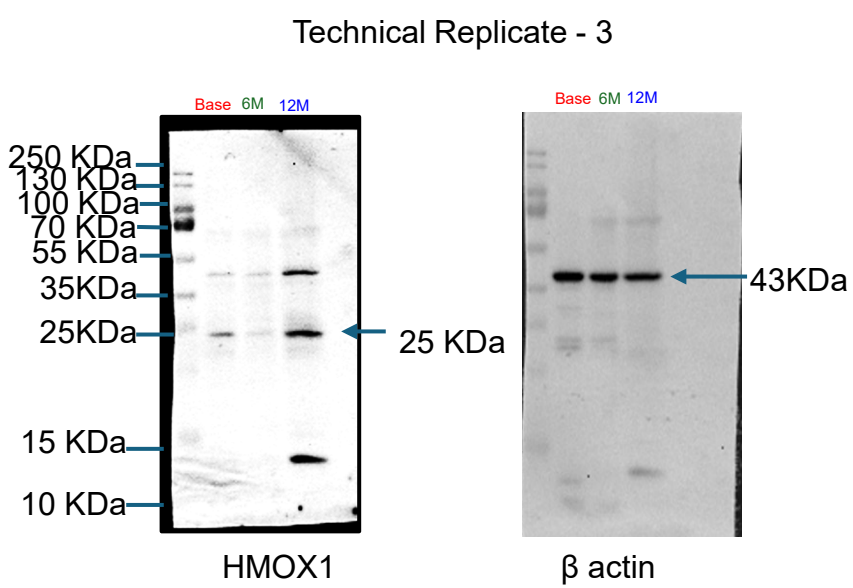

F
Female
Differentially expressed top- 50 genes (Baseline)
PDZD2
MMP28
RANBP17
MEG3
HIST2H3D
SLC16A11
HHIPL1
GRIN1
MICU3
SIRT4
CDH2
CDH17
CFAP57
KLRC3
ANKK1
RNVU1-19
IGKV5-2
LMAN1L
SFTPB
FBLN1
LRP1-AS
LYPD2
CHAC1
HCRT
RPL5P4
ARHGAP8
C14orf132
RASGEF1C
CRB3
CD207
RPL7AP11
LYPLA1P3
RPSAP16
TRAV8-3
ANKRD33
SLC38A11
FANK1
RSL24D1P1
HTR3A
C2orf91
RHOT1P1
ADAM23
GPR20
VIPR2
HIST1H2BI
IGLV2-18
PEG3
RF00019
LKAAEAR1
PPP1R36
0
5
10
15
20
25
30
35
40
TPM scores

Raw data -WB

Figure 1(C)


Technical Replicate - 1
Base 6M 12M
250 KDa
130 KDa
100 KDa
70 KDa
55 KDa
35KDa
25KDa
15 KDa
10 KDa
25 KDa
HMOX1
Base 6M 12M
43KDa
β actin


Technical Replicate - 2
Base 6M 12M
250 KDa
130 KDa
100 KDa
70 KDa
55 KDa
35KDa
25KDa
15 KDa
25 KDa
HMOX1
Base 6M 12M
43KDa
β actin


Technical Replicate - 3
Base 6M 12M
250 KDa
130 KDa
100 KDa
70 KDa
55 KDa
35KDa
25KDa
15 KDa
10 KDa
25 KDa
HMOX1
Base 6M 12M
43KDa
β actin

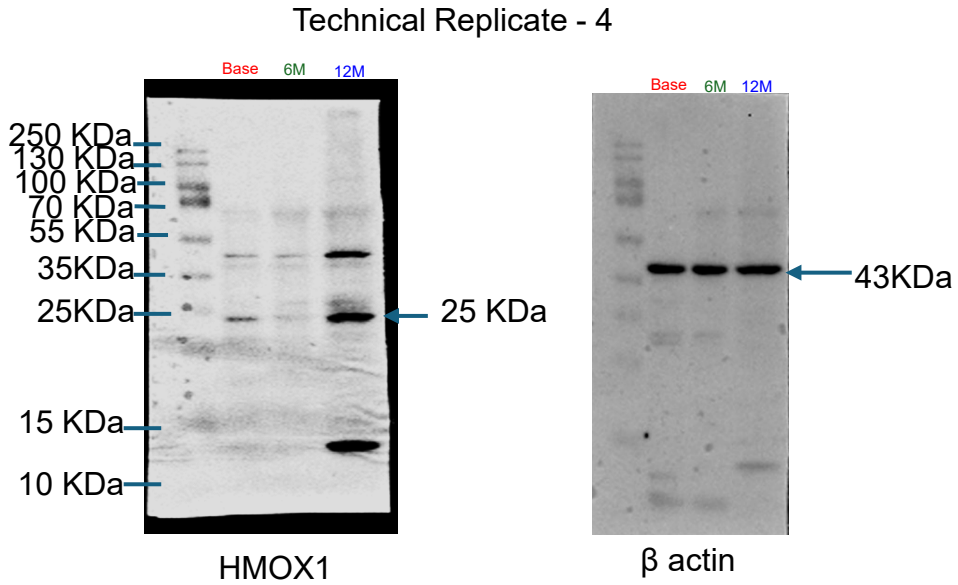

Technical Replicate - 4
Base 6M 12M
250 KDa
130 KDa
100 KDa
70 KDa
55 KDa
35KDa
25KDa
15 KDa
10 KDa
25 KDa
HMOX1
Base 6M 12M
43KDa
β actin

Figure 1(D)

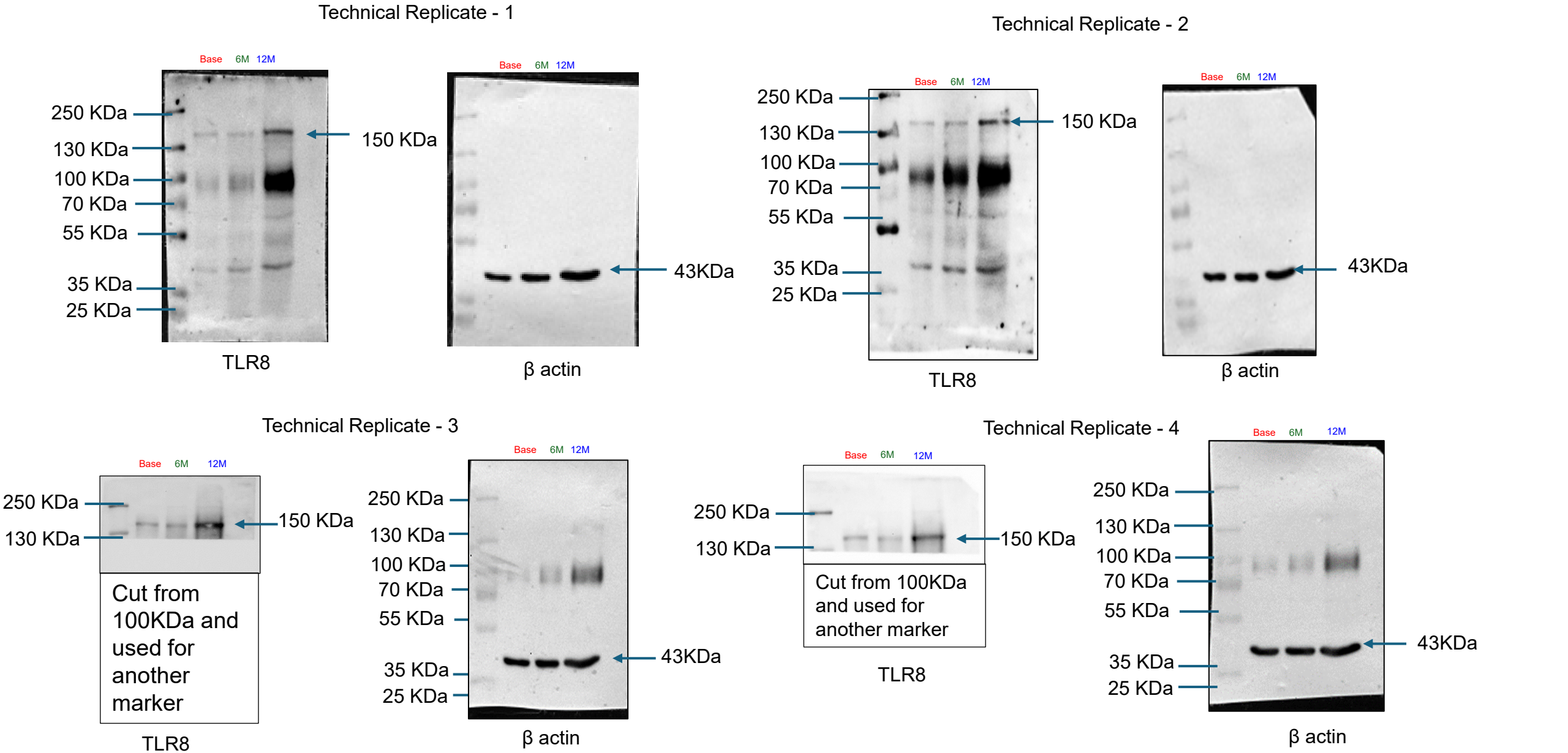

Technical Replicate - 1
Base 6M 12M
250 KDa
130 KDa
100 KDa
70 KDa
55 KDa
35 KDa
25 KDa
150 KDa
TLR8
Base 6M 12M
43KDa
β actin
Technical Replicate - 2
Base 6M 12M
250 KDa
130 KDa
100 KDa
70 KDa
55 KDa
35 KDa
25 KDa
150 KDa
TLR8
Base 6M 12M
43KDa
β actin
Technical Replicate - 3
Base 6M 12M
250 KDa
130 KDa
150 KDa
Cut from 100KDa and used for another marker
TLR8
Base 6M 12M
250 KDa
130 KDa
100 KDa
70 KDa
55 KDa
35 KDa
25 KDa
43KDa
β actin
Technical Replicate - 4
Base 6M 12M
250 KDa
130 KDa
150 KDa
Cut from 100KDa and used for another marker
TLR8
Base 6M 12M
250 KDa
130 KDa
100 KDa
70 KDa
55 KDa
35 KDa
25 KDa
43KDa
β actin

Figure 1(E)

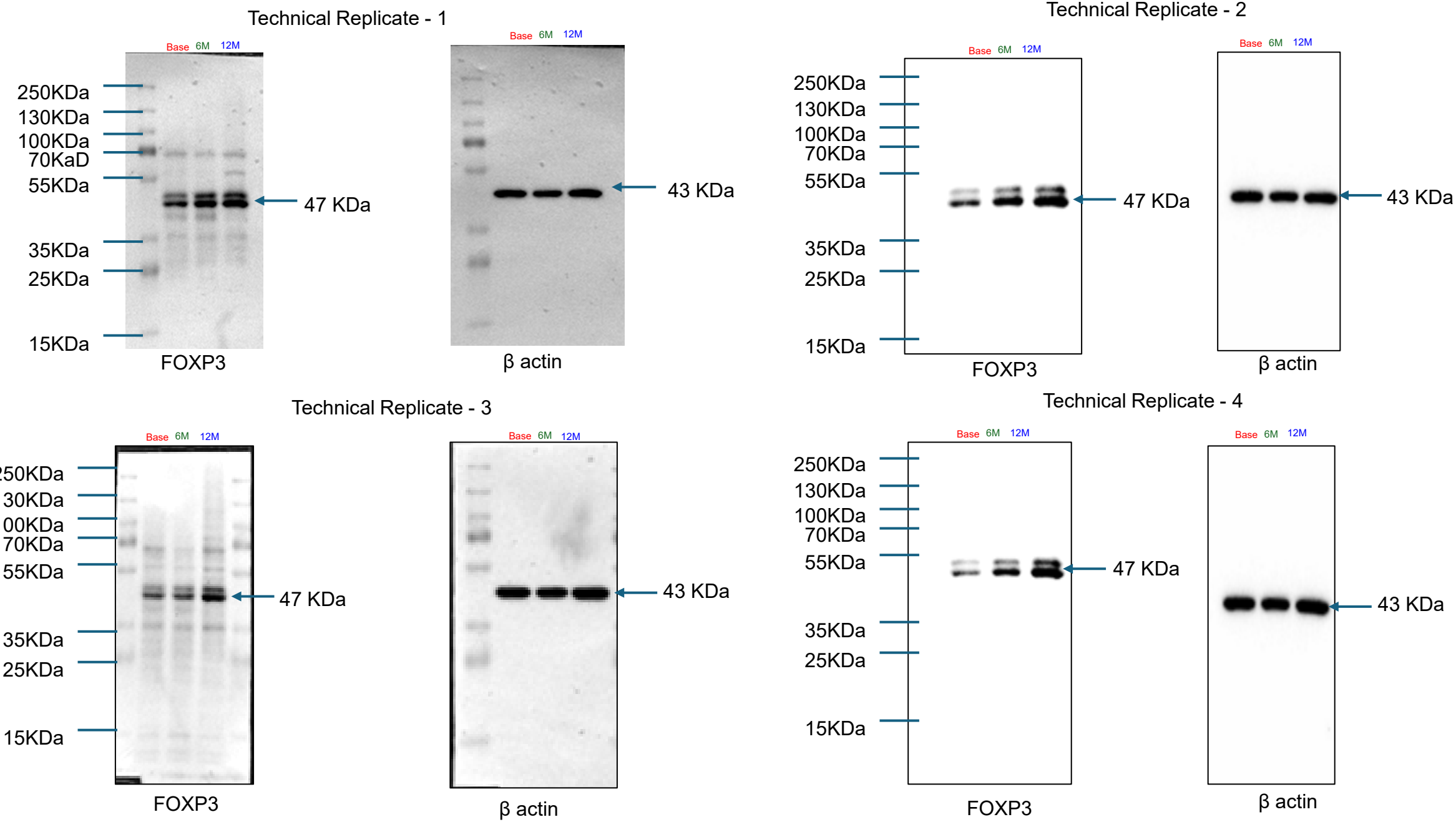

Technical Replicate - 1
Base 6M 12M
250KDa
130KDa
100KDa
70KaD
55KDa
35KDa
25KDa
15KDa
47 KDa
FOXP3
Base 6M 12M
43 KDa
β actin
Technical Replicate - 2
Base 6M 12M
250KDa
130KDa
100KDa
70KDa
55KDa
35KDa
25KDa
15KDa
47 KDa
FOXP3
Base 6M 12M
43 KDa
β actin
Technical Replicate - 3
Base 6M 12M
250KDa
130KDa
100KDa
70KDa
55KDa
35KDa
25KDa
15KDa
47 KDa
FOXP3
Base 6M 12M
43 KDa
β actin
Technical Replicate - 4
Base 6M 12M
250KDa
130KDa
100KDa
70KDa
55KDa
35KDa
25KDa
15KDa
47 KDa
FOXP3
Base 6M 12M
43 KDa
β actin

Figure 2(F)

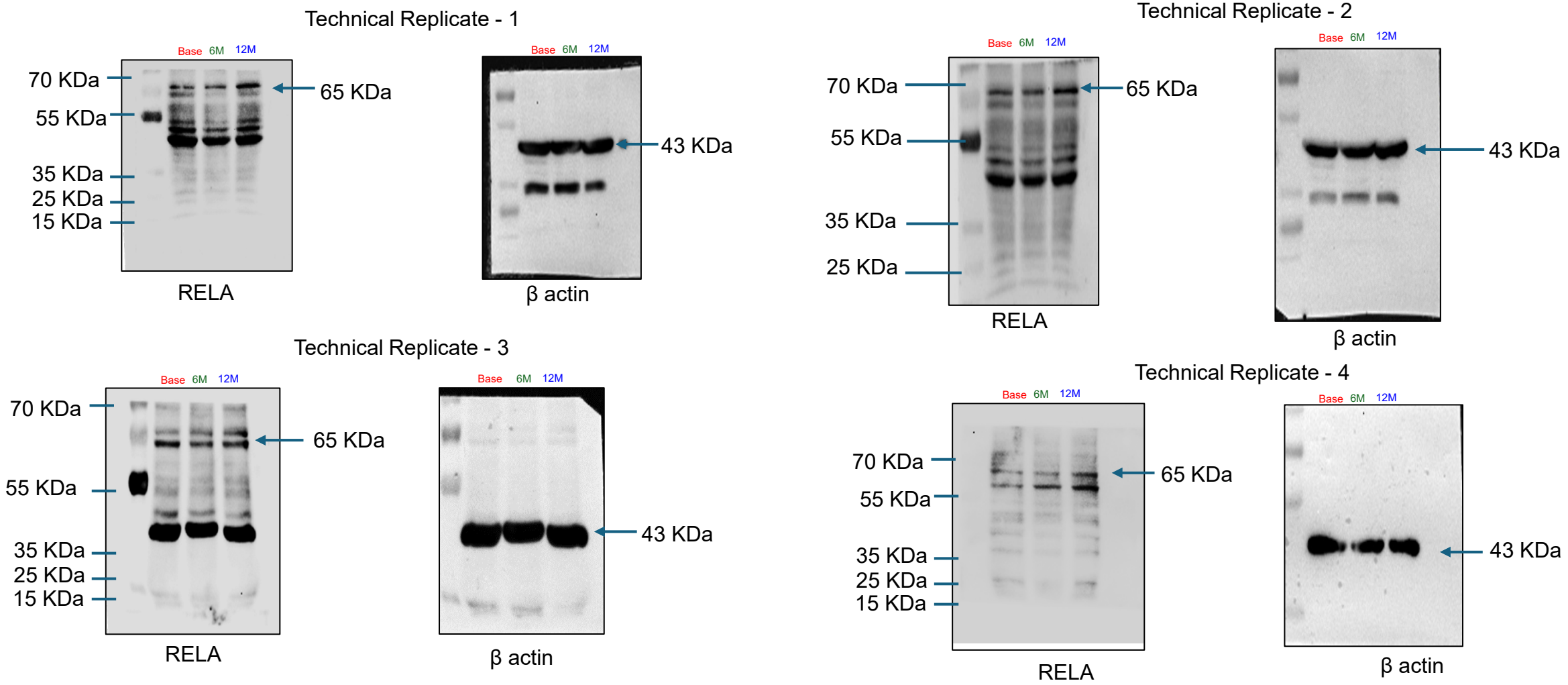
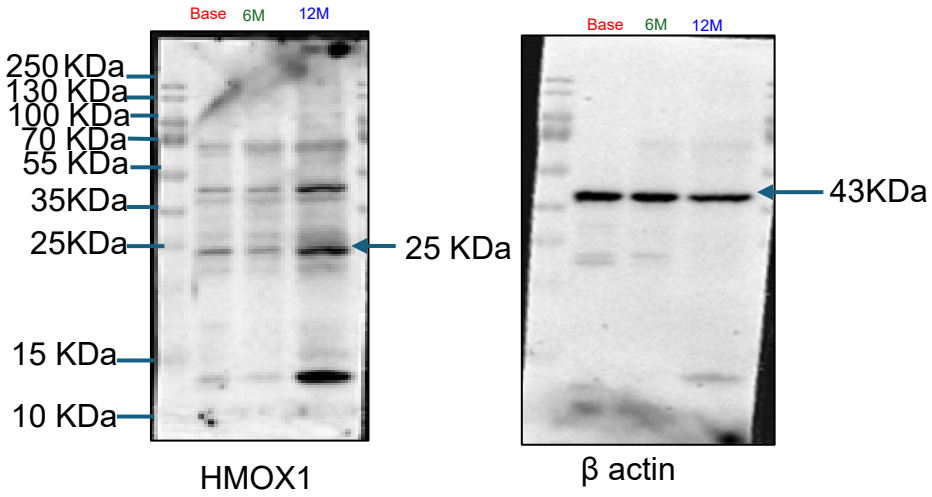
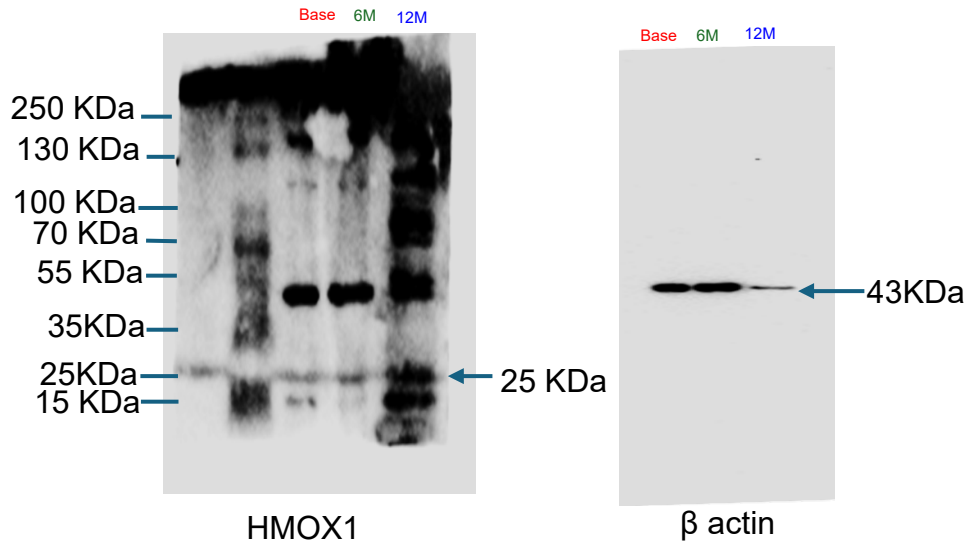

Technical Replicate - 1
Base 6M 12M
70 KDa
55 KDa
35 KDa
25 KDa
15 KDa
65 KDa
RELA
Base 6M 12M
43 KDa
β actin
Technical Replicate - 2
Base 6M 12M
70 KDa
55 KDa
35 KDa
25 KDa
65 KDa
RELA
Base 6M 12M
43 KDa
β actin
Technical Replicate - 3
Base 6M 12M
70 KDa
55 KDa
35 KDa
25 KDa
15 KDa
65 KDa
RELA
Base 6M 12M
43 KDa
β actin
Technical Replicate - 4
Base 6M 12M
70 KDa
55 KDa
35 KDa
25 KDa
15 KDa
65 KDa
RELA
Base 6M 12M
43 KDa
β actin

Figure 2(G)

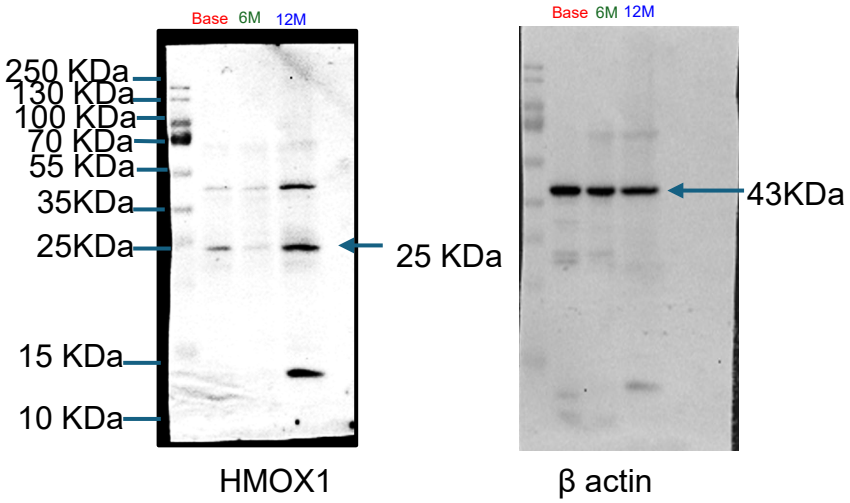
Technical Replicate - 1



Technical Replicate - 2



Technical Replicate - 3



Technical Replicate - 4

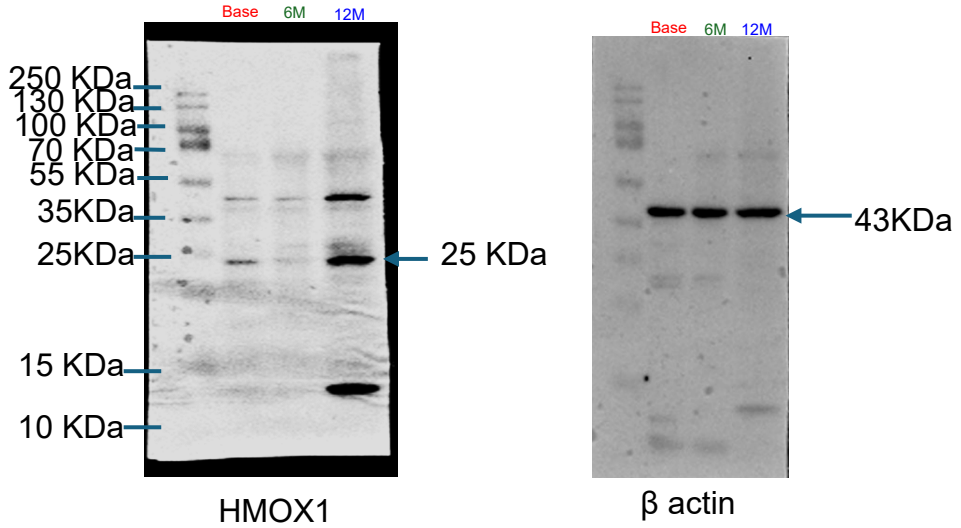


Figure 2(H)

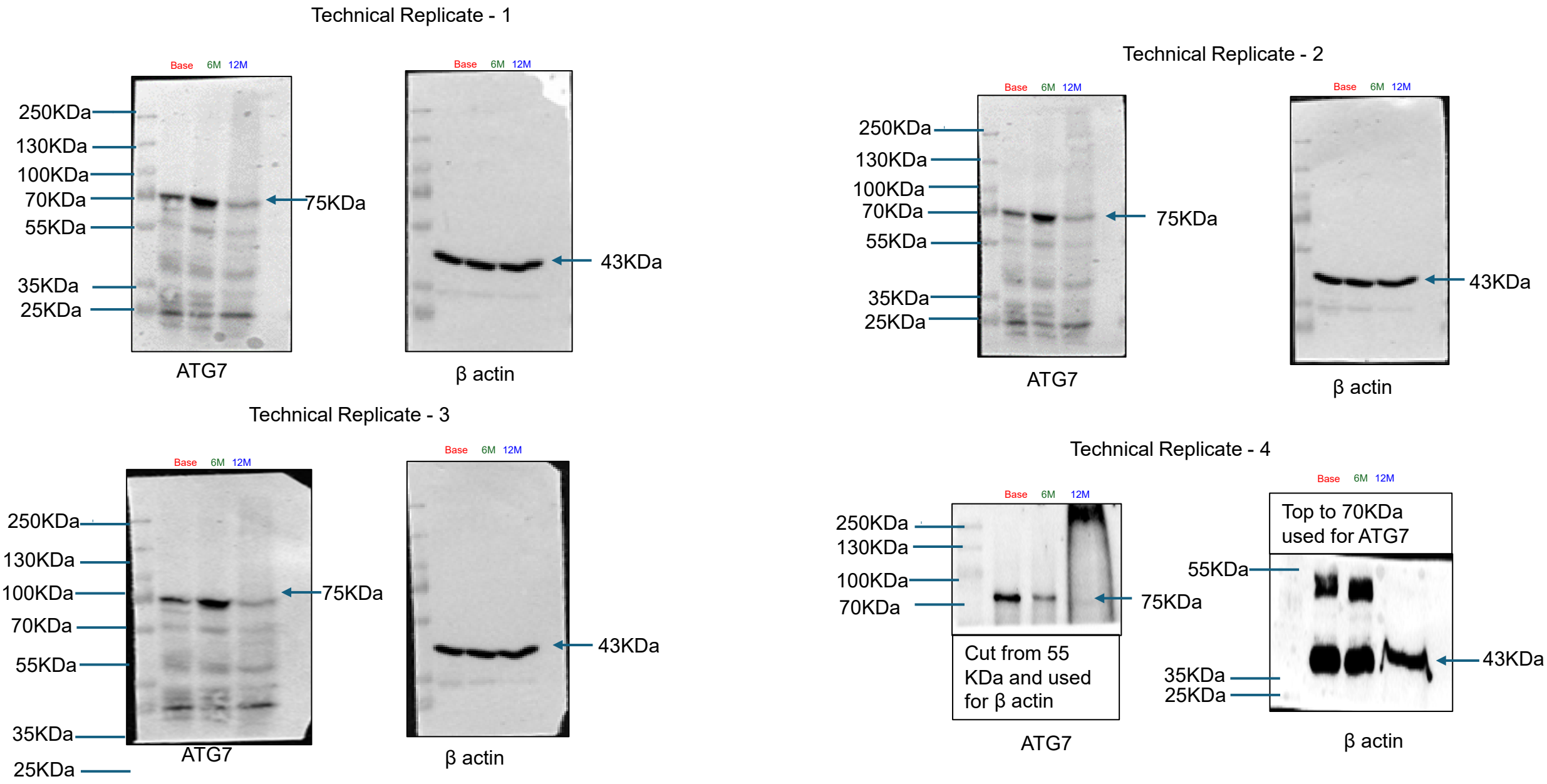

Technical Replicate - 1
Base 6M 12M
250KDa
130KDa
100KDa
70KDa
55KDa
35KDa
25KDa
75KDa
ATG7
Base 6M 12M
43KDa
β actin
Technical Replicate - 2
Base 6M 12M
250KDa
130KDa
100KDa
70KDa
55KDa
35KDa
25KDa
75KDa
ATG7
Base 6M 12M
43KDa
β actin
Technical Replicate - 3
Base 6M 12M
250KDa
130KDa
100KDa
70KDa
55KDa
35KDa
25KDa
75KDa
ATG7
Base 6M 12M
43KDa
β actin
Technical Replicate - 4
Base 6M 12M
250KDa
130KDa
100KDa
70KDa
75KDa
Cut from 55 KDa and used for β actin
ATG7
Base 6M 12M
Top to 70KDa used for ATG7
55KDa
35KDa
25KDa
43KDa
β actin

Figure 2(K)

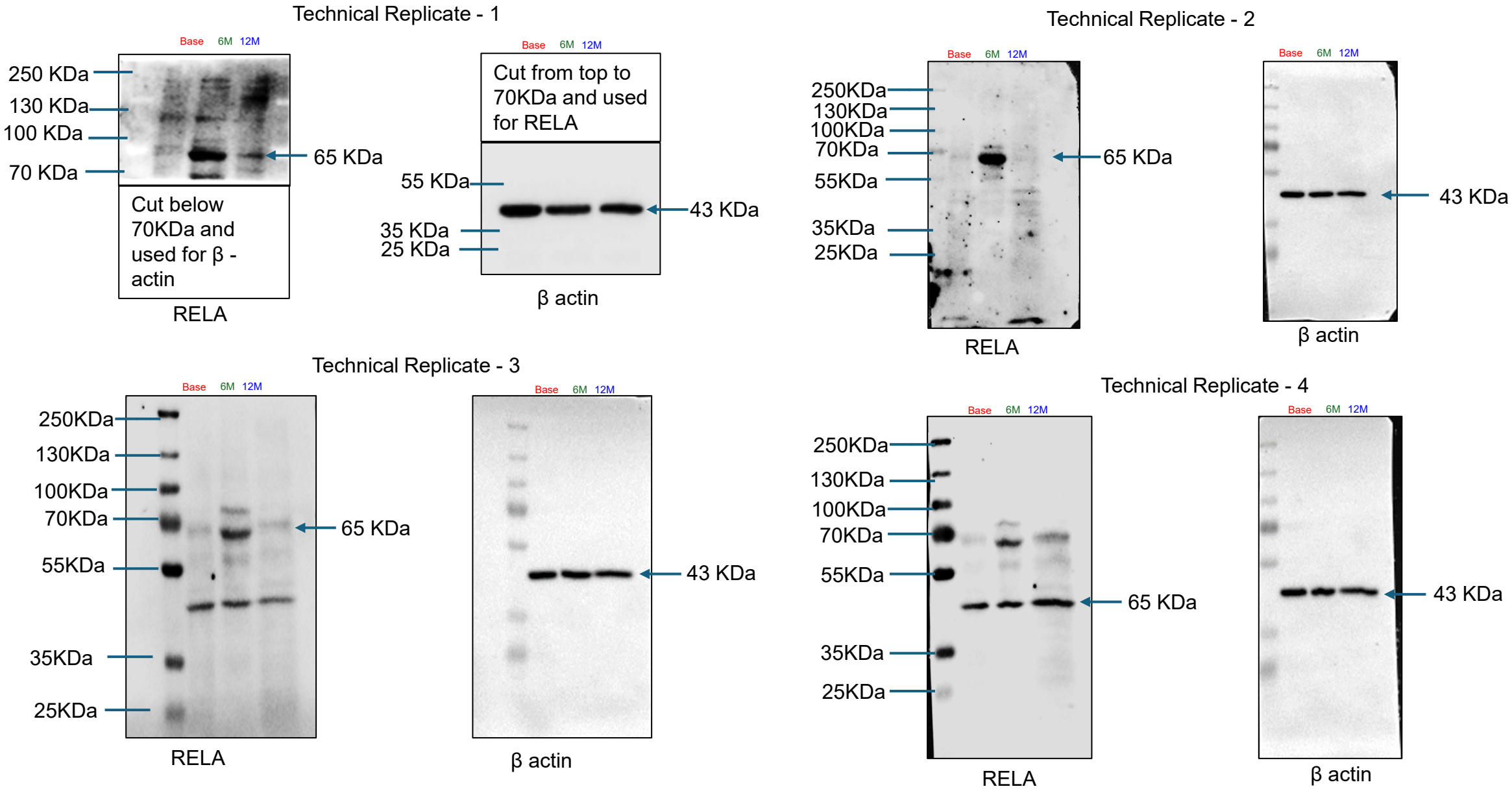
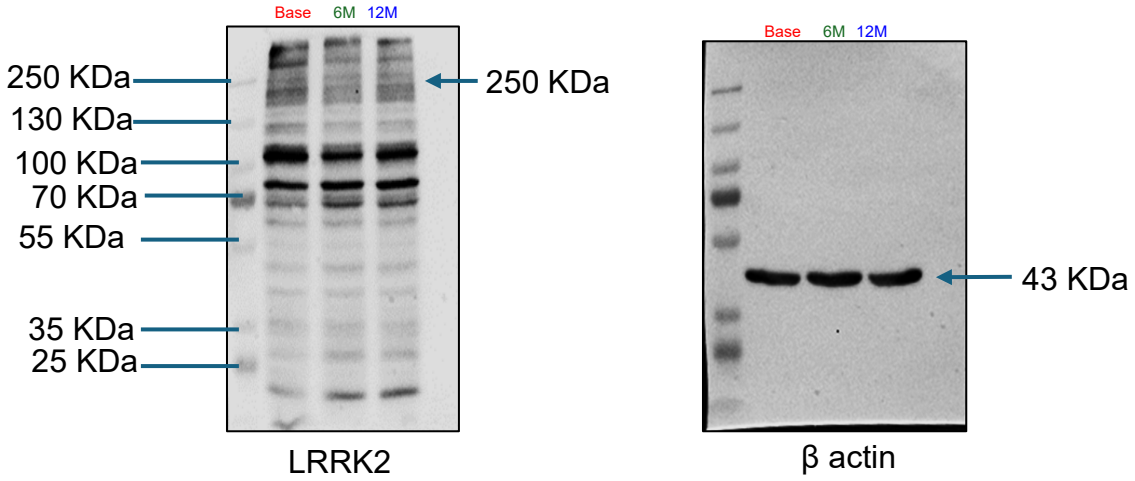
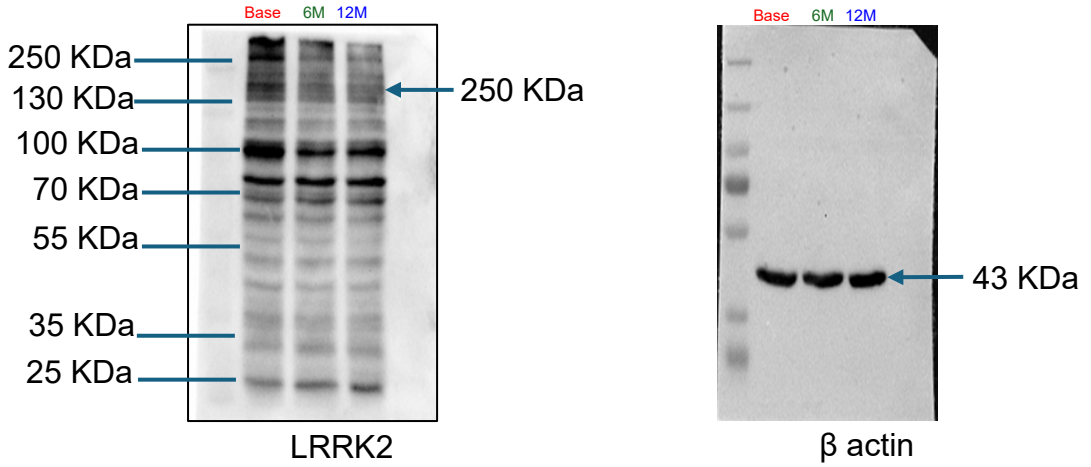

Technical Replicate - 1
Base 6M 12M
250 KDa
130 KDa
100 KDa
70 KDa
65 KDa
Cut below 70KDa and used for β - actin
RELA
Base 6M 12M
Cut from top to 70KDa and used for RELA
55 KDa
35 KDa
25 KDa
43 KDa
β actin
Technical Replicate - 2
Base 6M 12M
250KDa
130KDa
100KDa
70KDa
55KDa
35KDa
25KDa
65 KDa
RELA
Base 6M 12M
43 KDa
β actin
Technical Replicate - 3
Base 6M 12M
250KDa
130KDa
100KDa
70KDa
55KDa
35KDa
25KDa
65 KDa
RELA
Base 6M 12M
43 KDa
β actin
Technical Replicate - 4
Base 6M 12M
250KDa
130KDa
100KDa
70KDa
55KDa
35KDa
25KDa
65 KDa
RELA
Base 6M 12M
43 KDa
β actin

Figure 2(L)

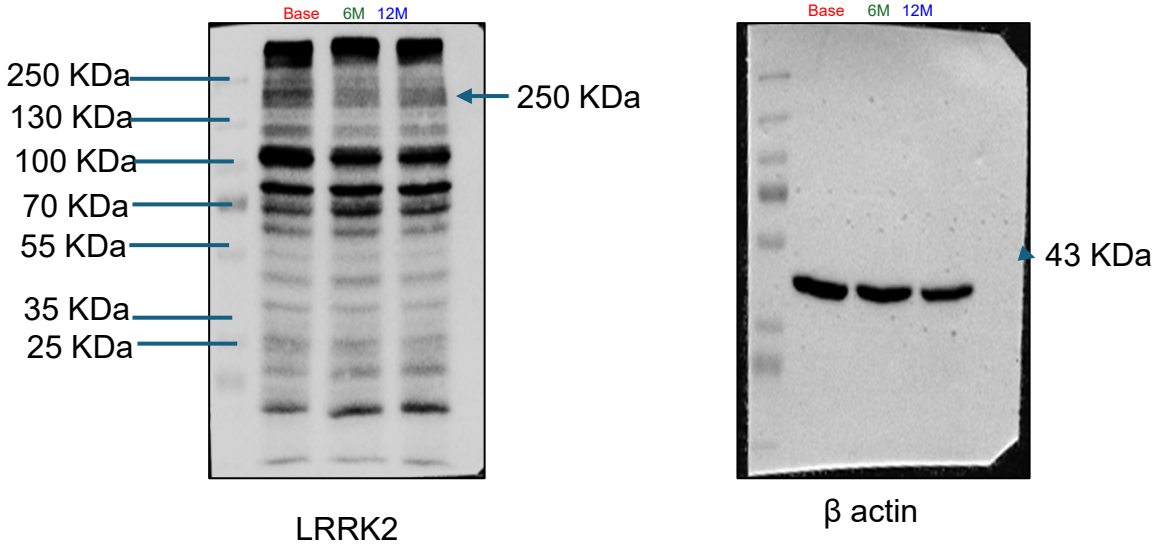
Technical Replicate - 1



Technical Replicate - 2



Technical Replicate - 3



Technical Replicate - 4

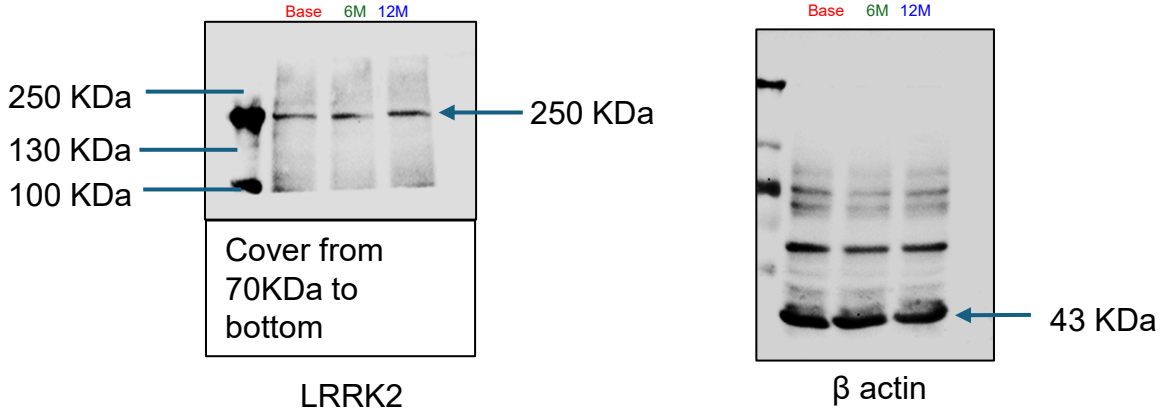
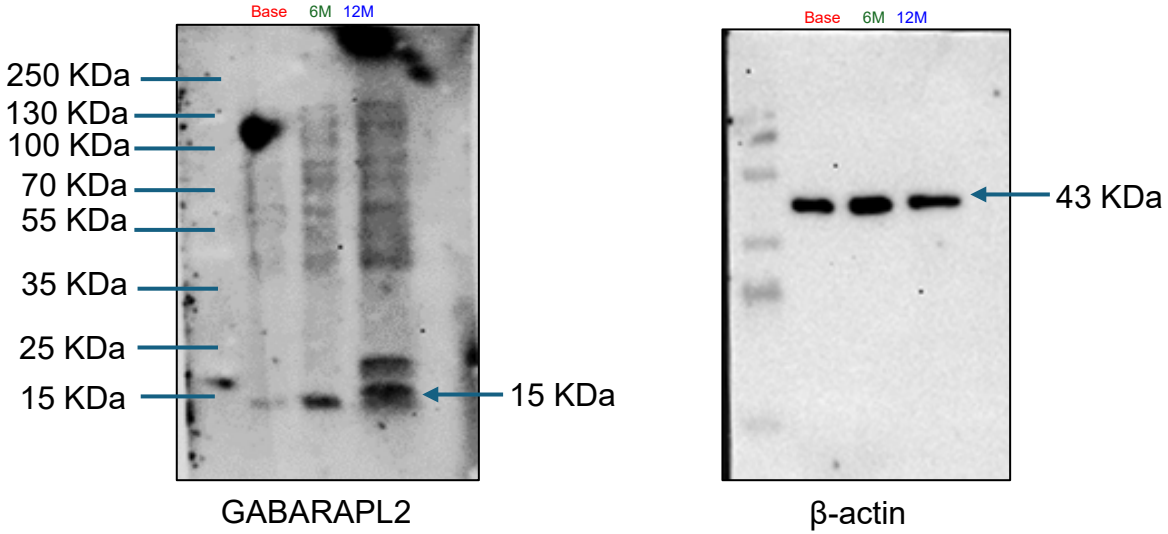
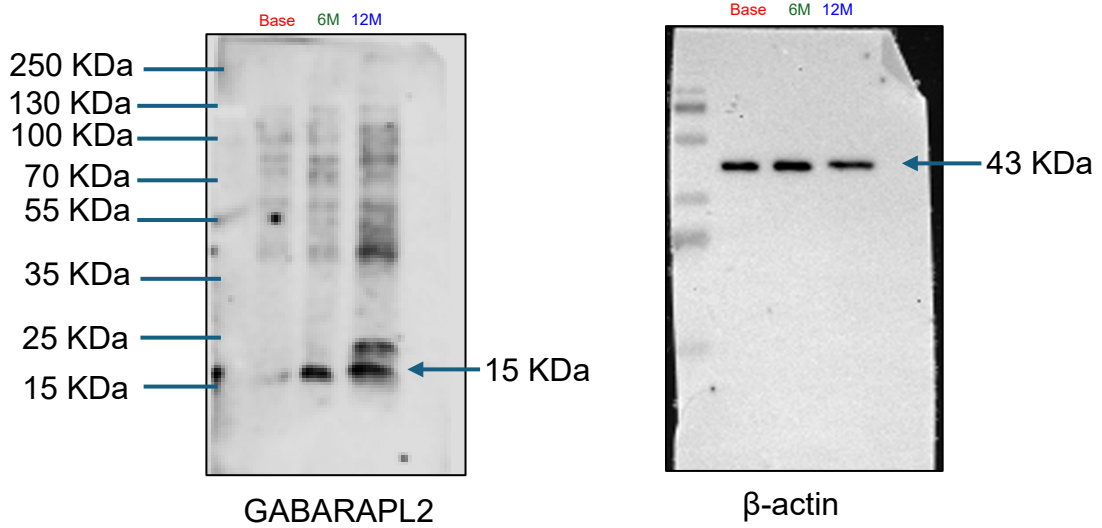


Figure 2(O)

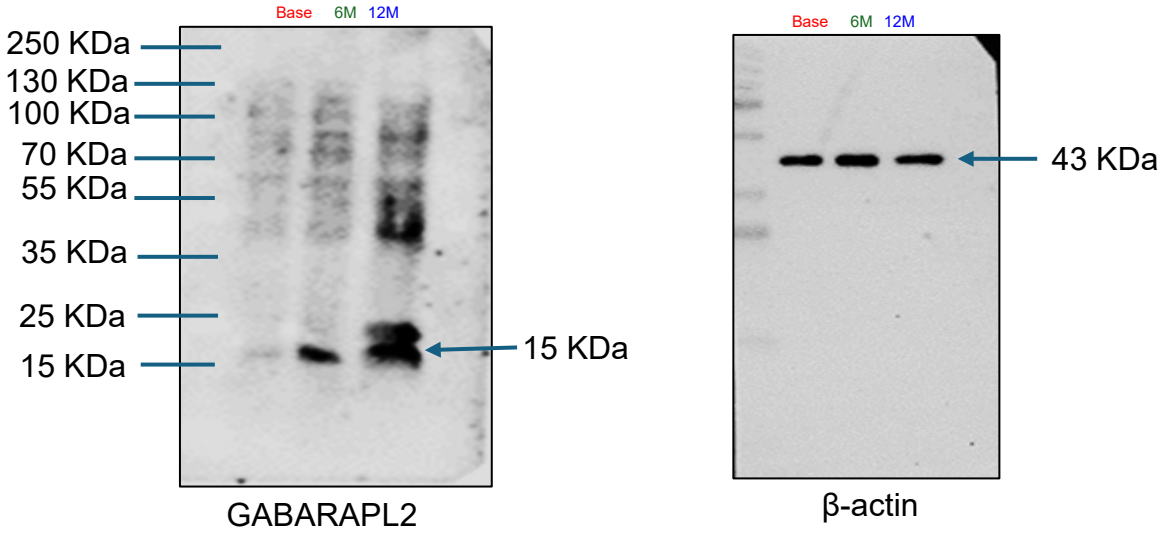
Technical Replicate - 1



Technical Replicate - 2



Technical Replicate - 3



Technical Replicate - 4

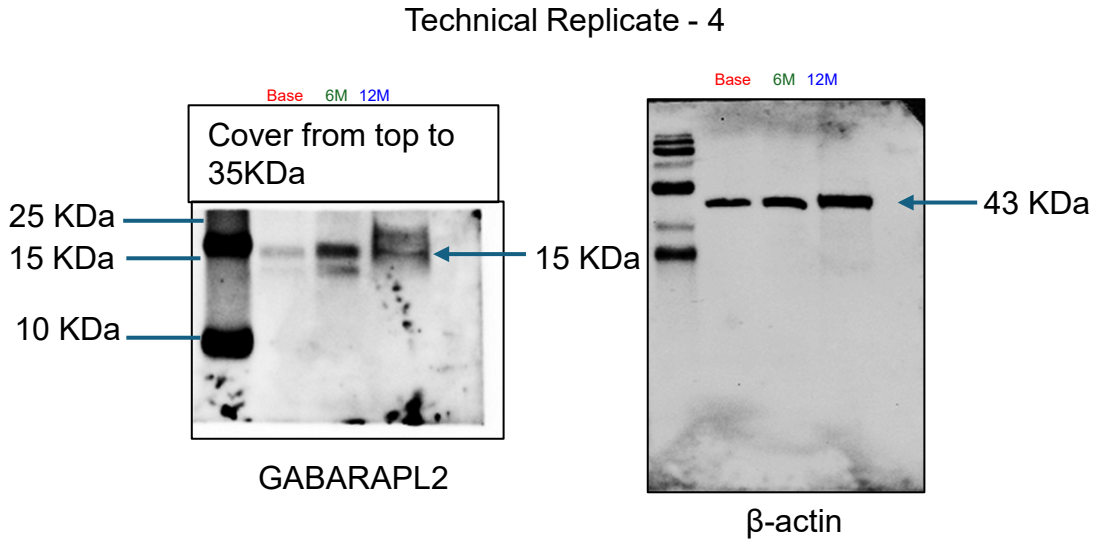
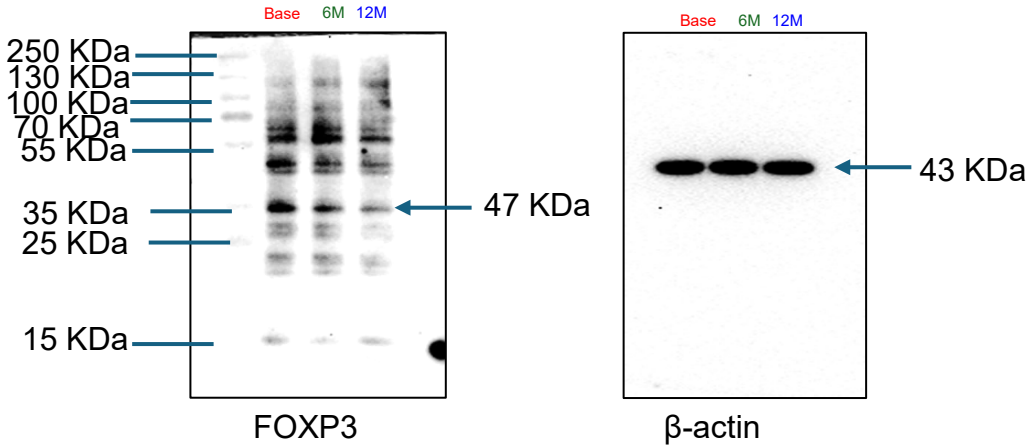
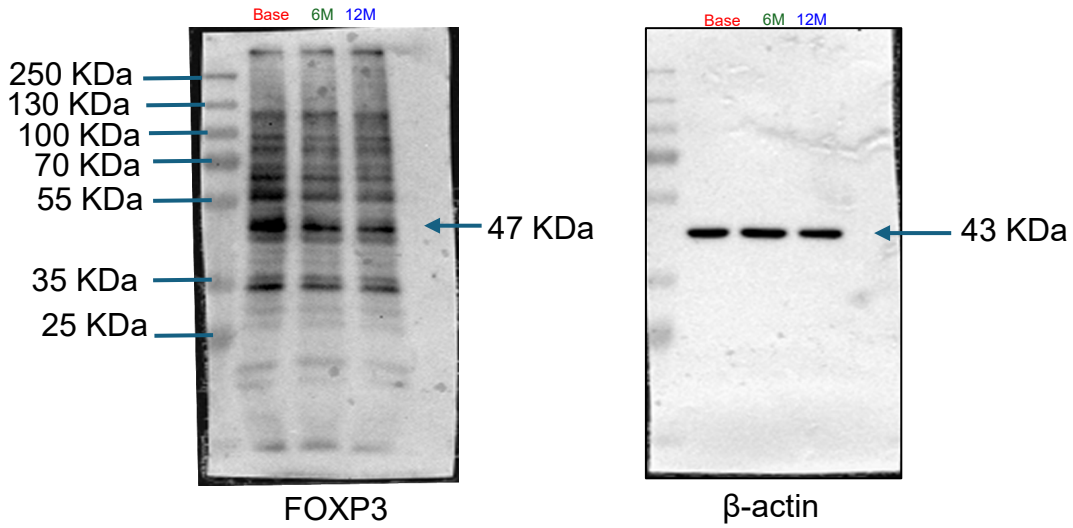


Figure 2(P)

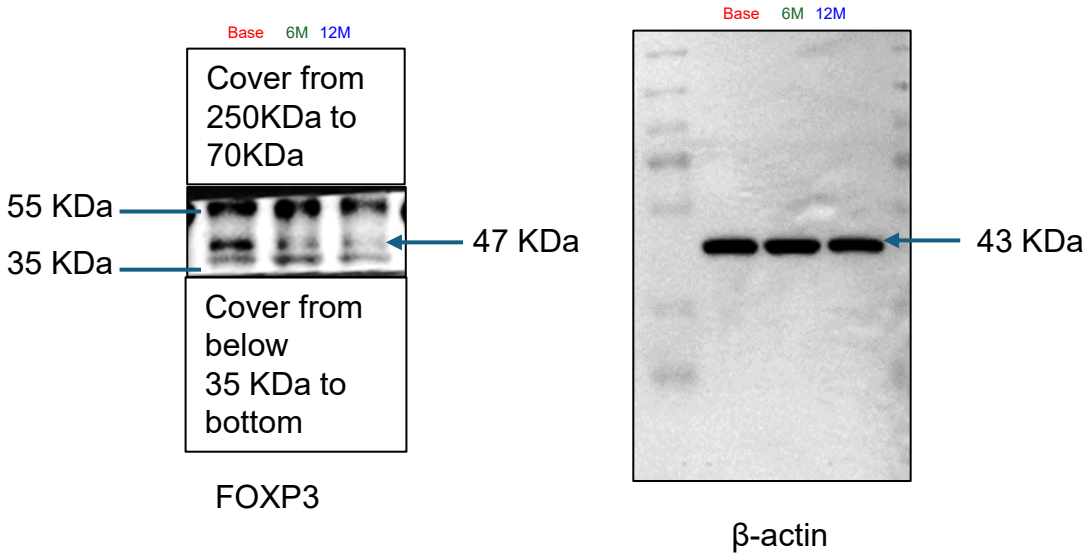
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Technical Replicate - 2



Technical Replicate - 3



Technical Replicate - 4

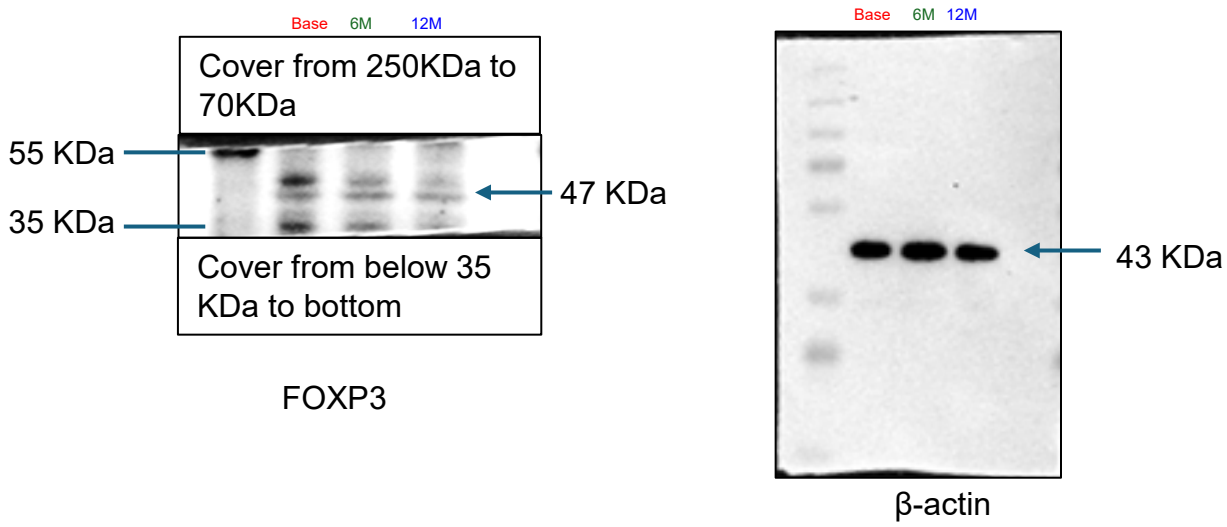
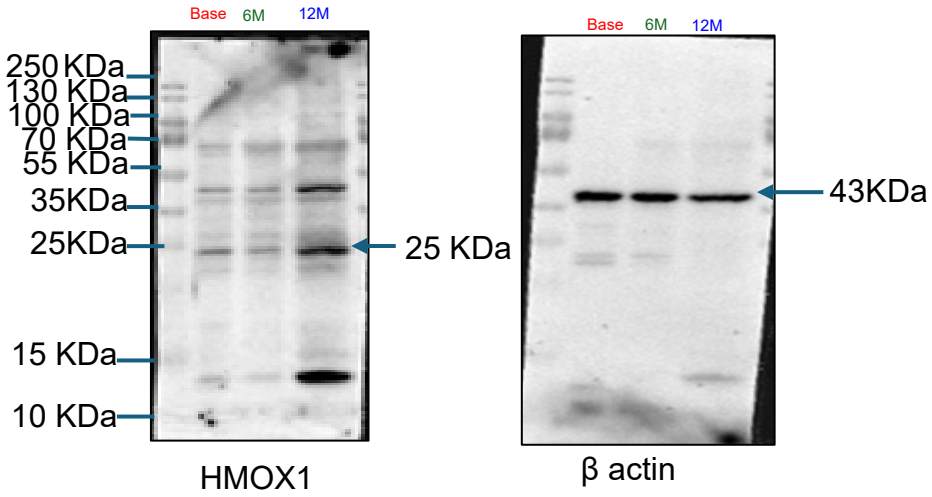
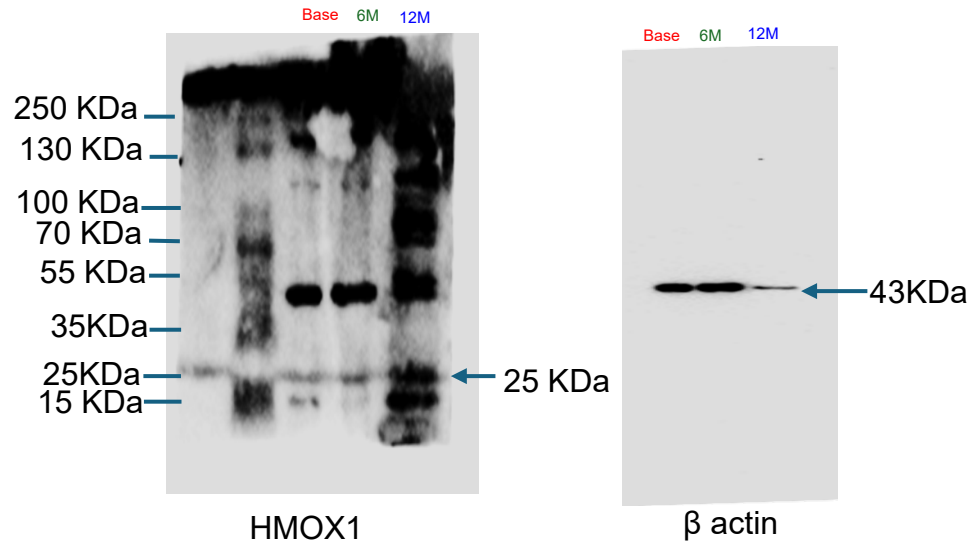


Figure 4(C)

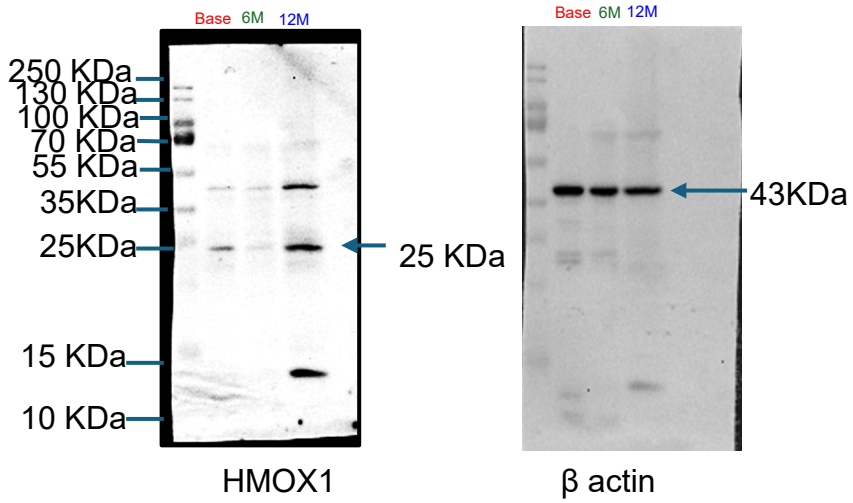
Technical Replicate - 1



Technical Replicate - 2



Technical Replicate - 3



Technical Replicate - 4

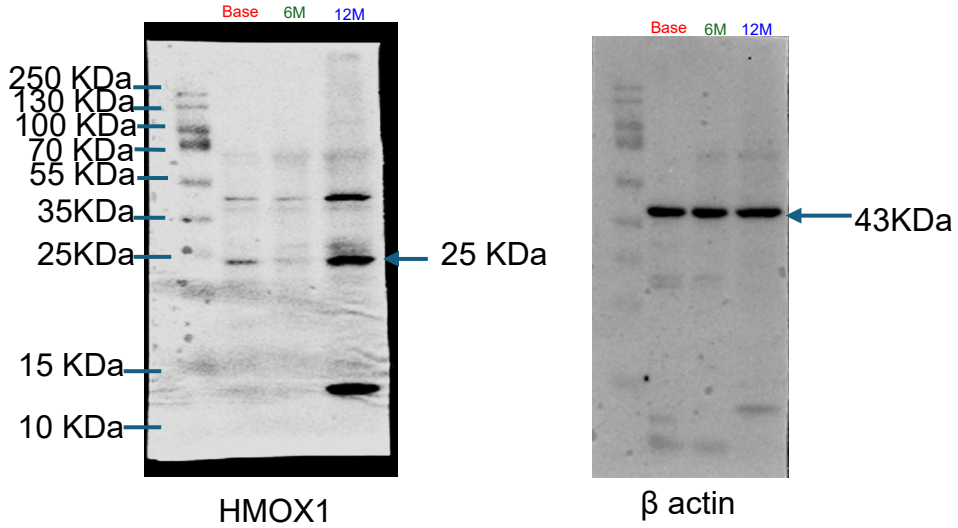
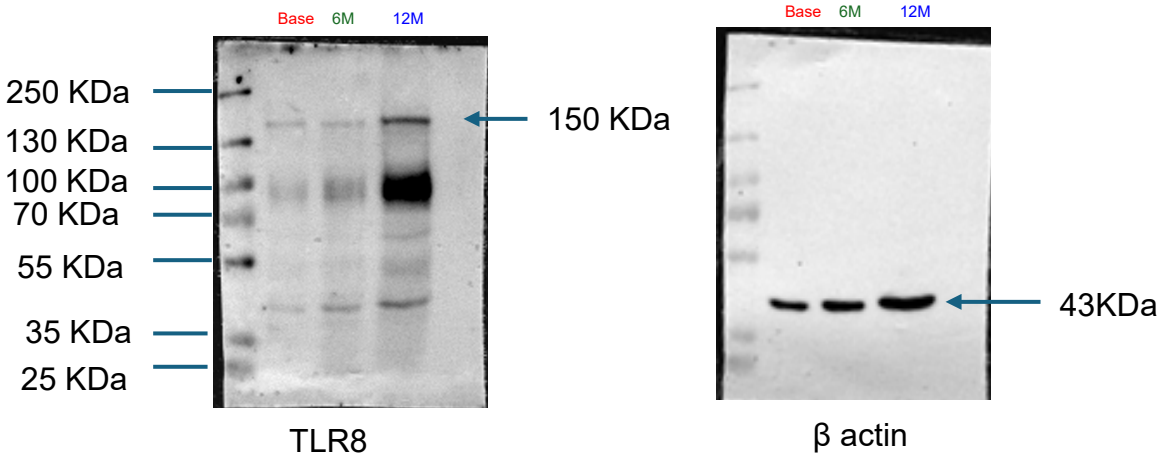
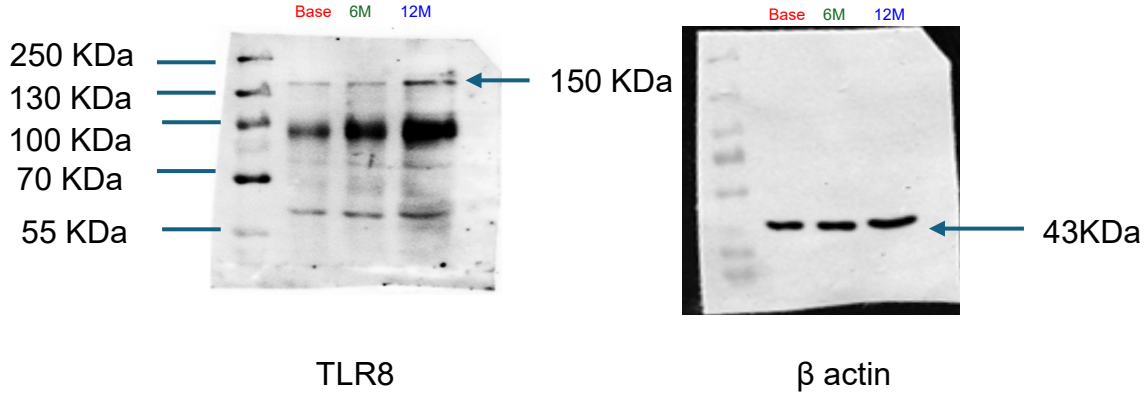


Figure 4 (D)

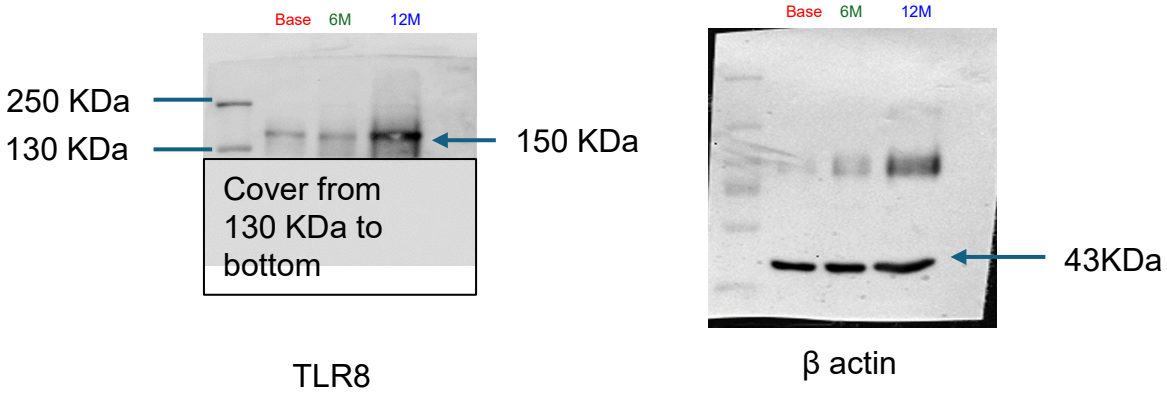
Technical Replicate - 1



Technical Replicate - 2



Technical Replicate - 3



Technical Replicate - 4

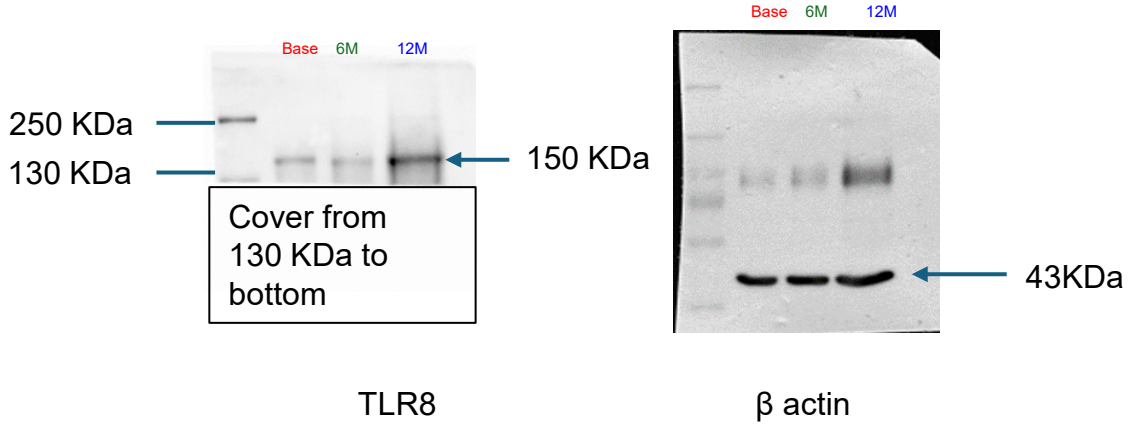
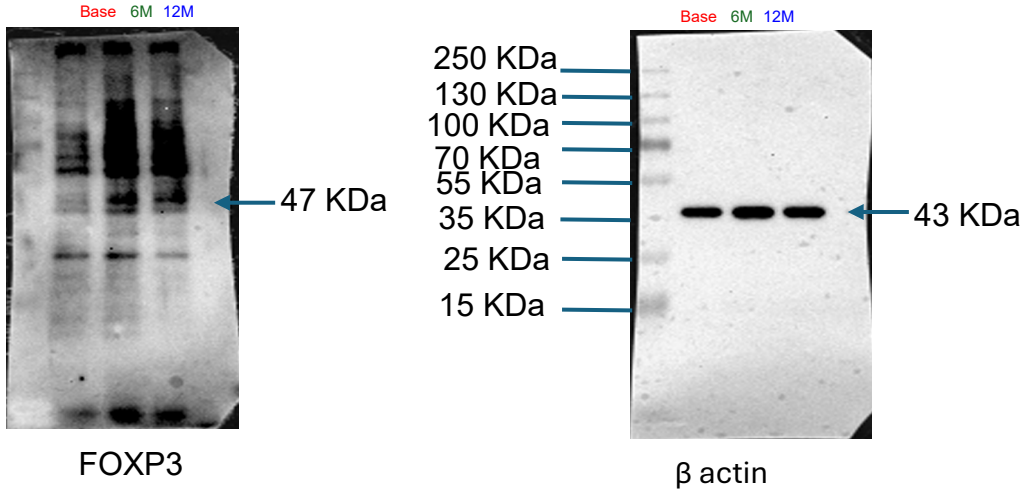
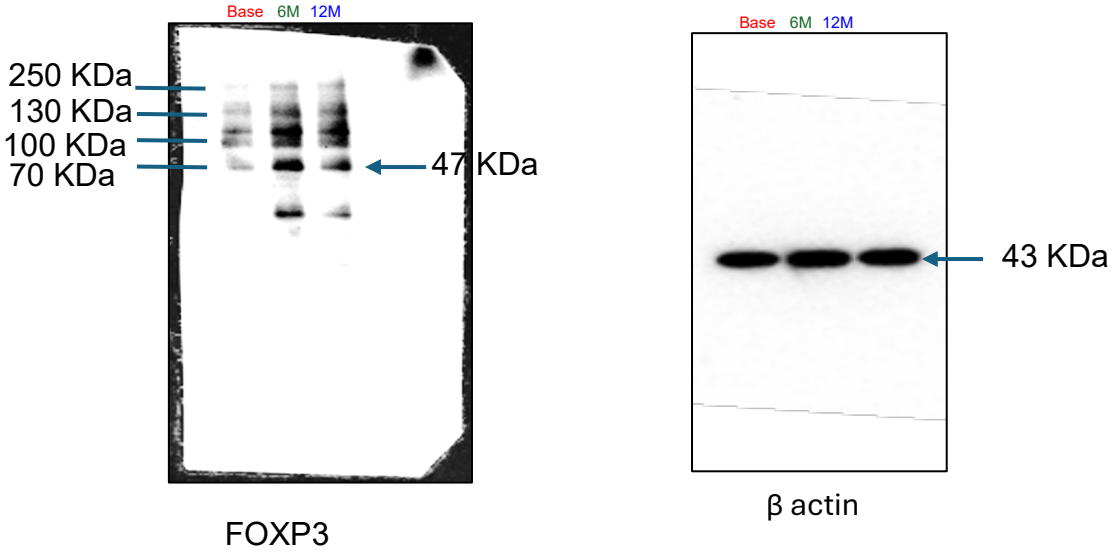


Figure 5(C)

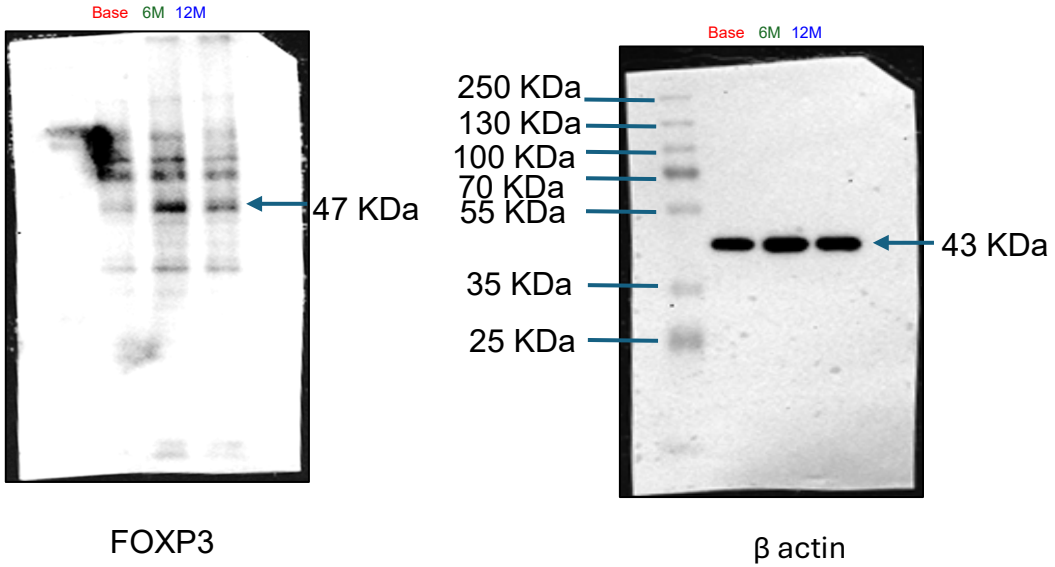
Technical Replicate - 1



Technical Replicate - 2



Technical Replicate - 3



Technical Replicate - 4

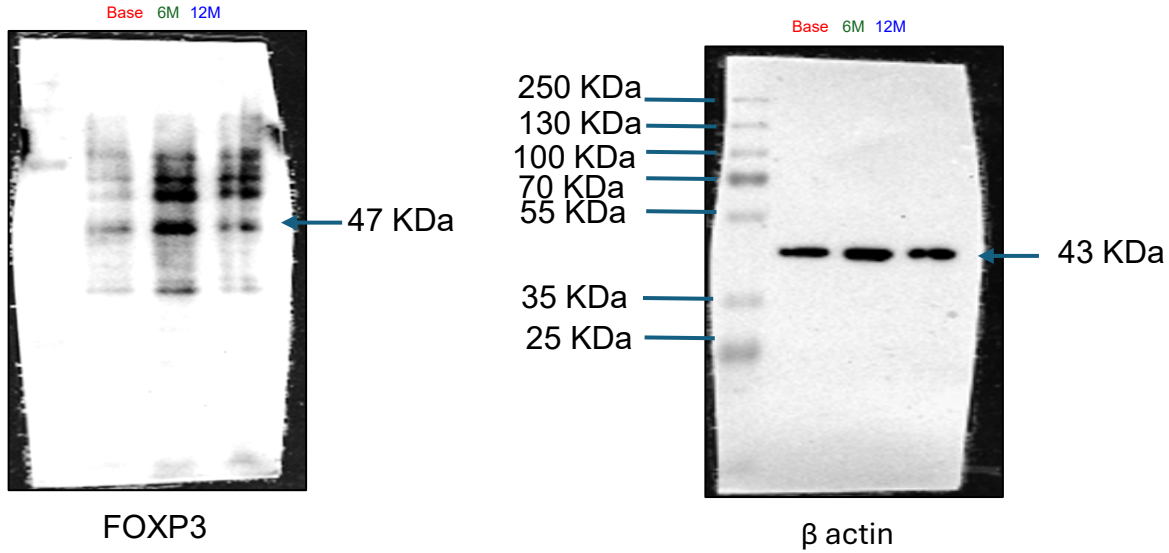
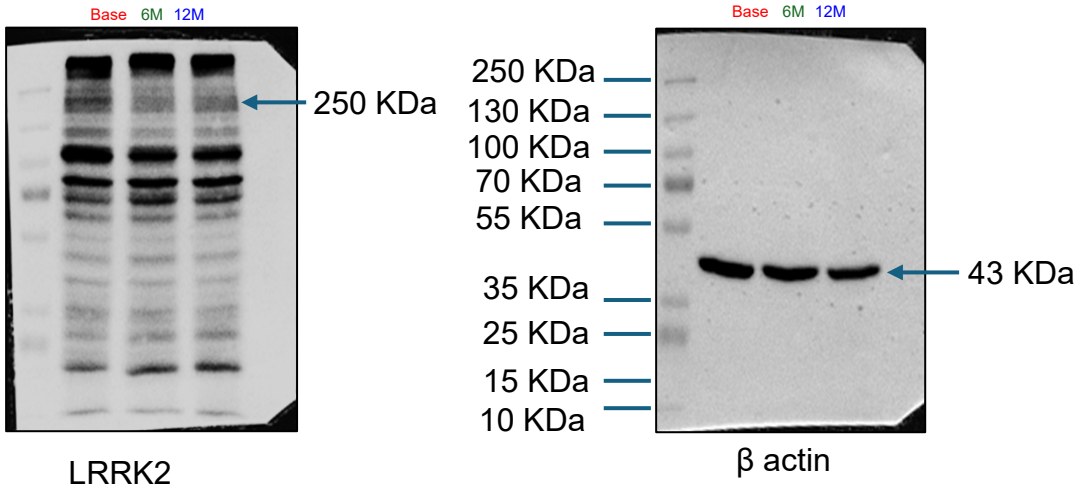
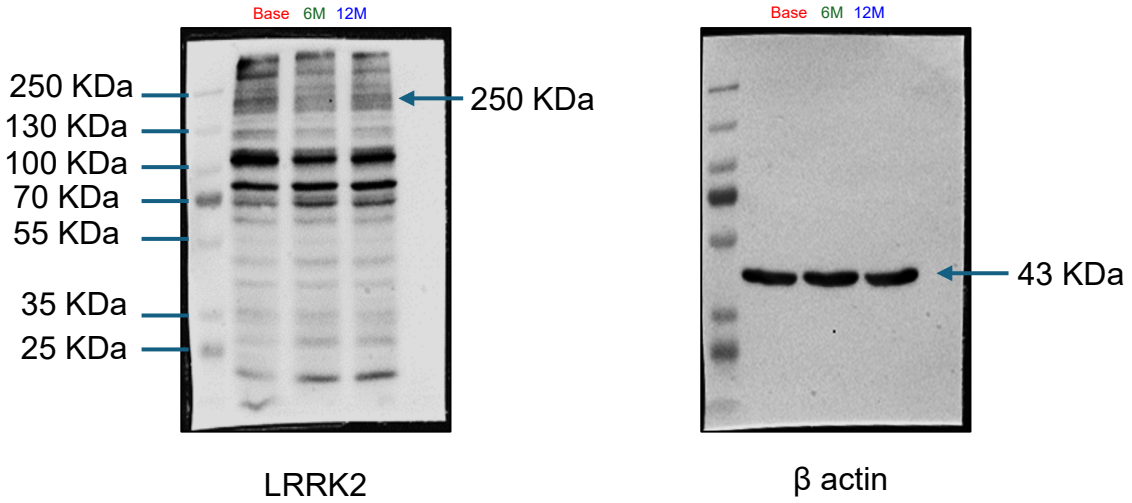


Figure 5(G)

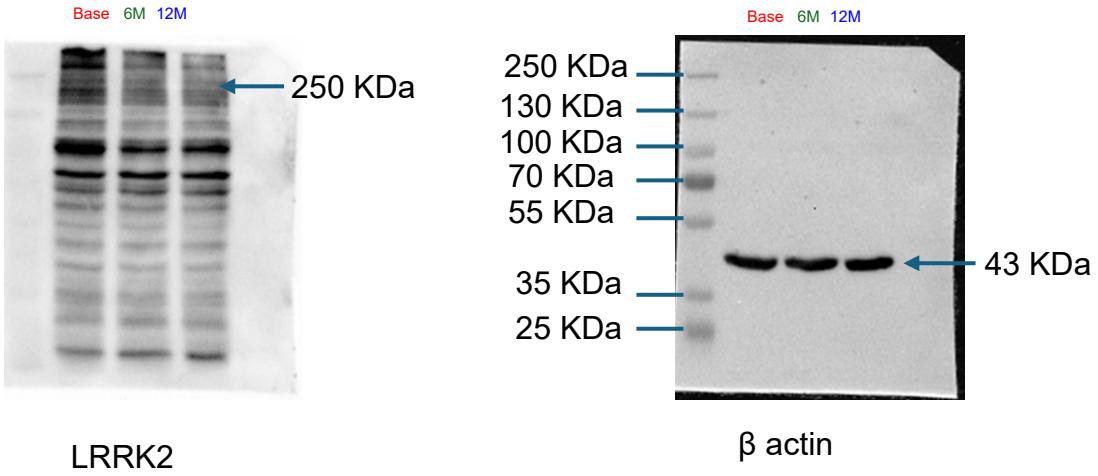
Technical Replicate - 1



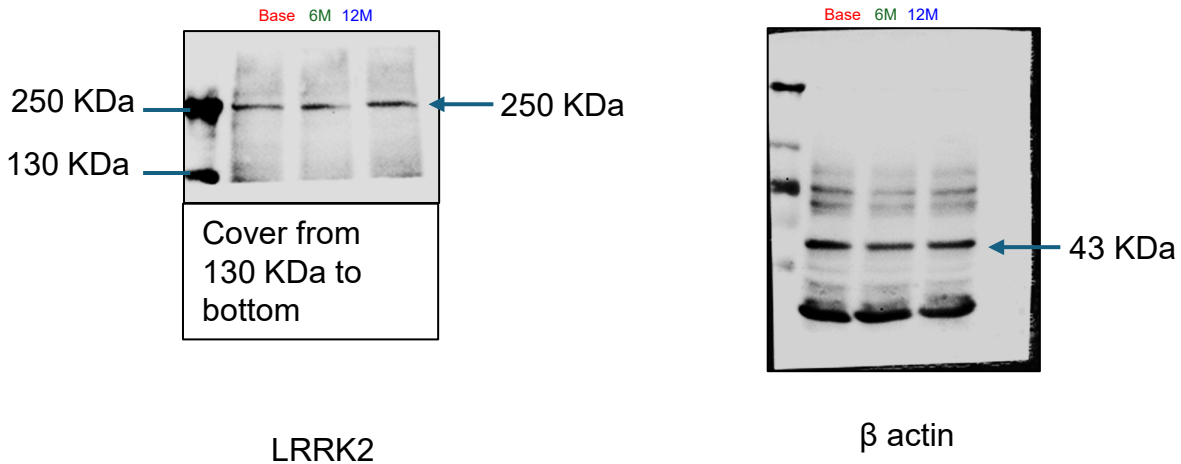
Technical Replicate - 2



Technical Replicate - 3

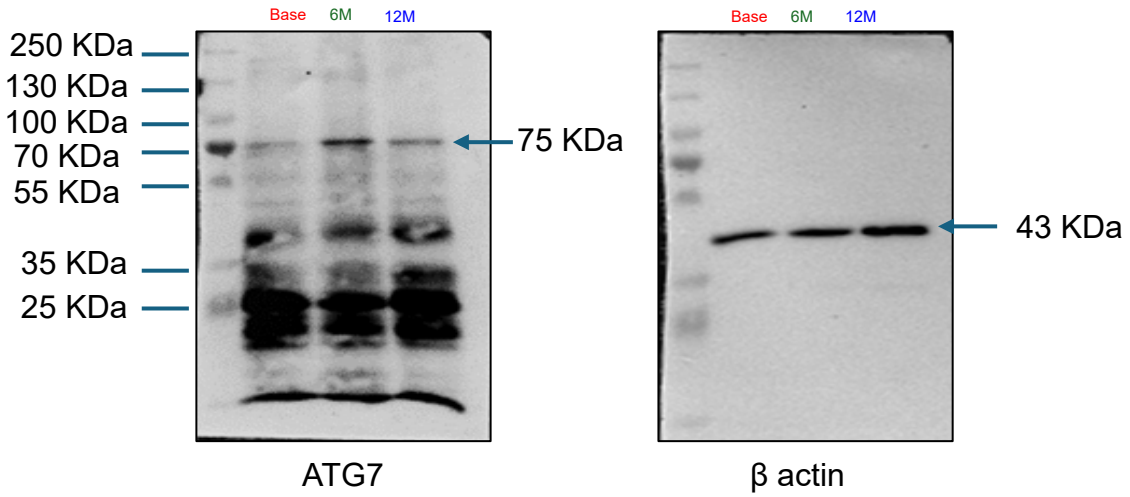


Technical Replicate - 4

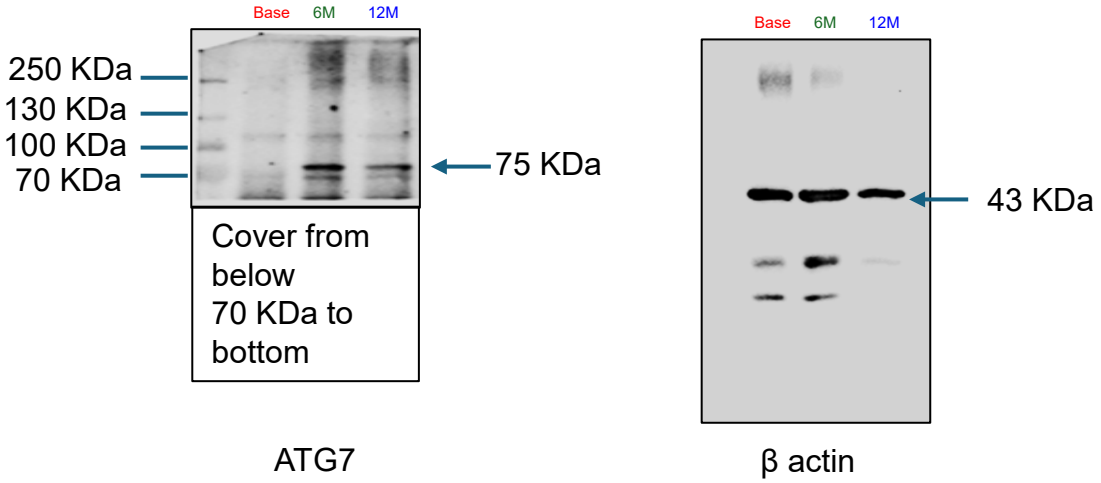


Supplementary Figure 1(A)

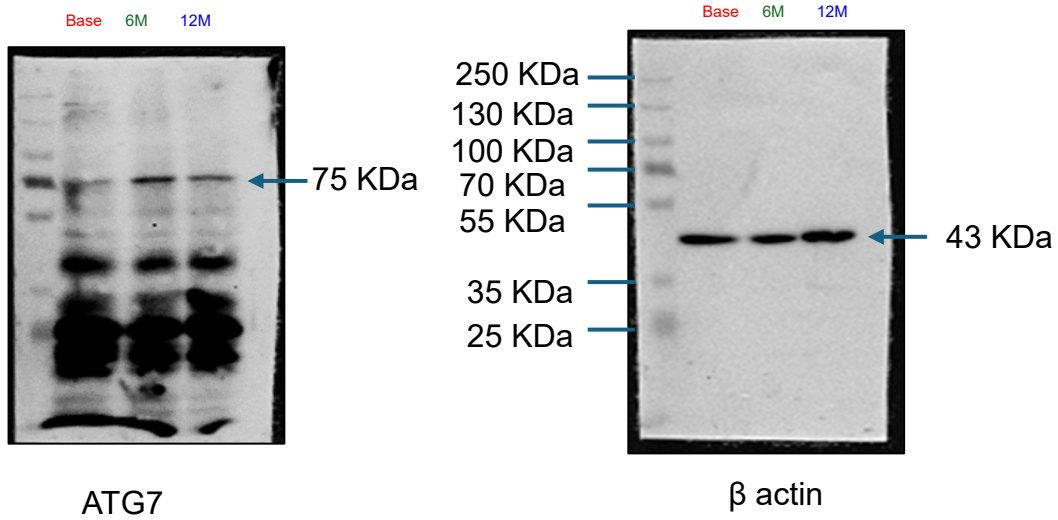
Technical Replicate - 1



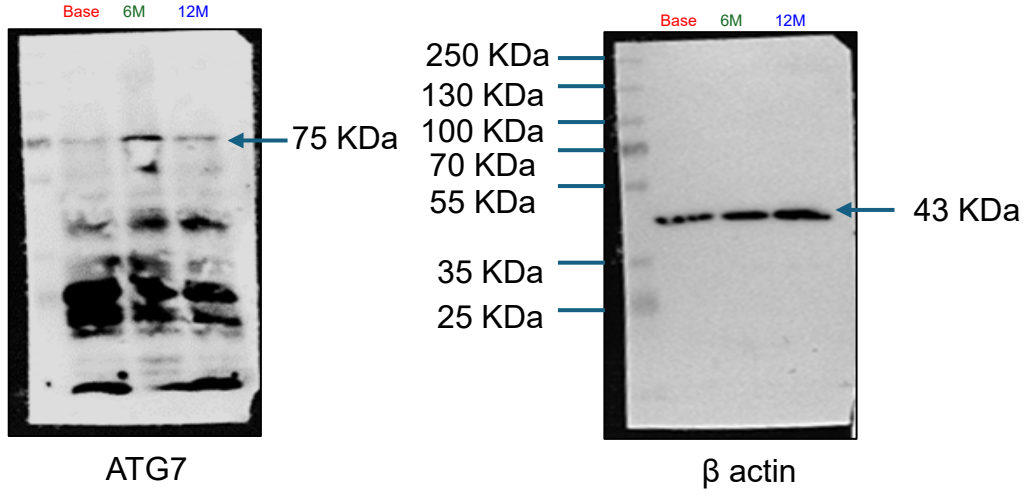
Technical Replicate - 2



Technical Replicate - 3

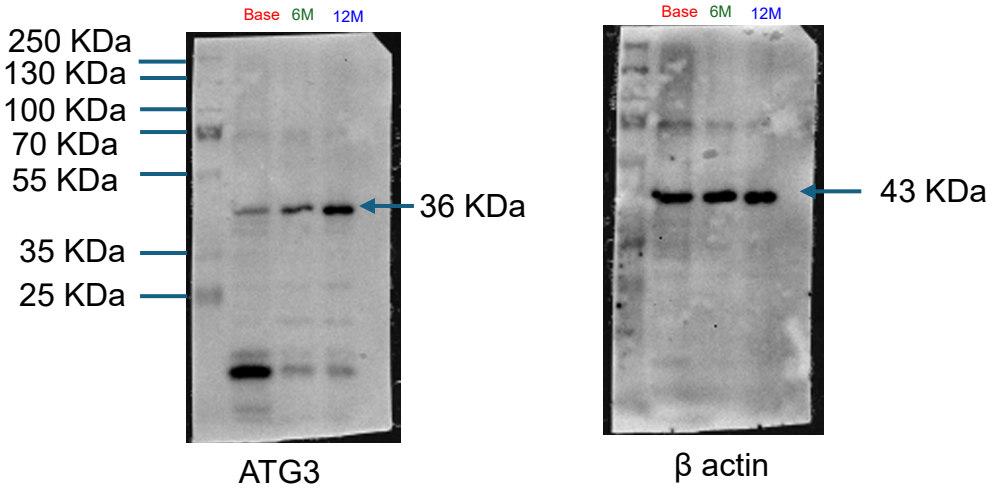


Technical Replicate - 4

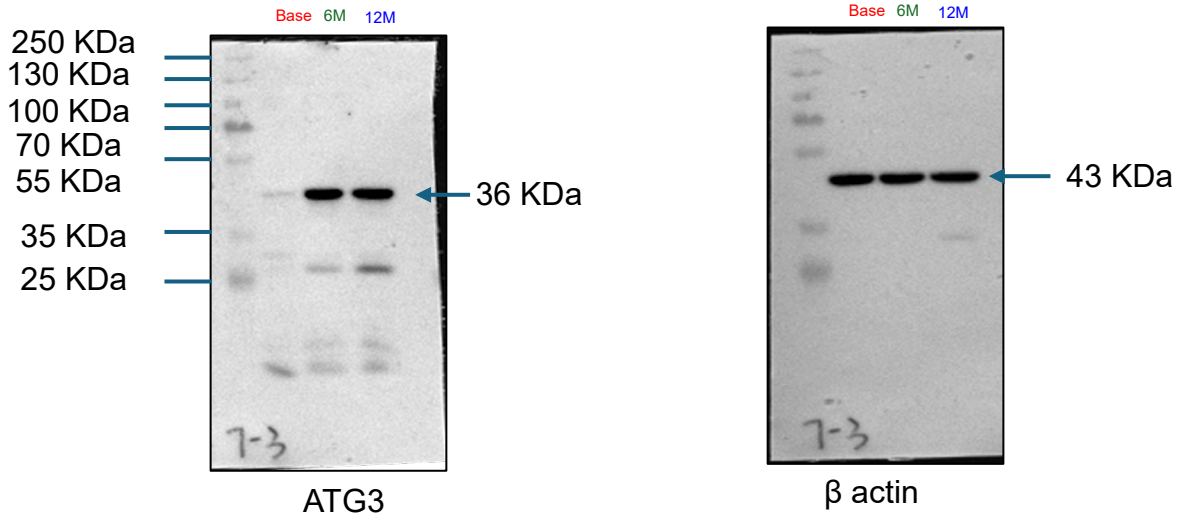


Supplementary Figure 1(B)

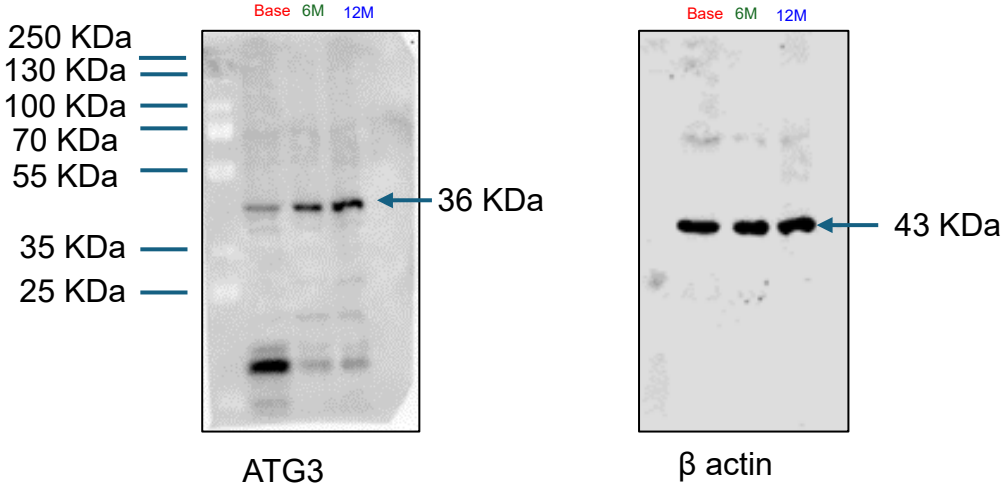
Technical Replicate - 1



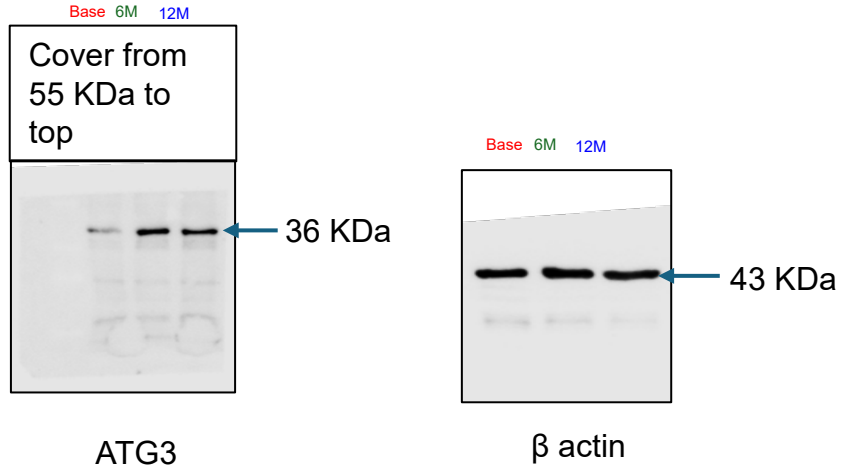
Technical Replicate - 2



Technical Replicate - 3

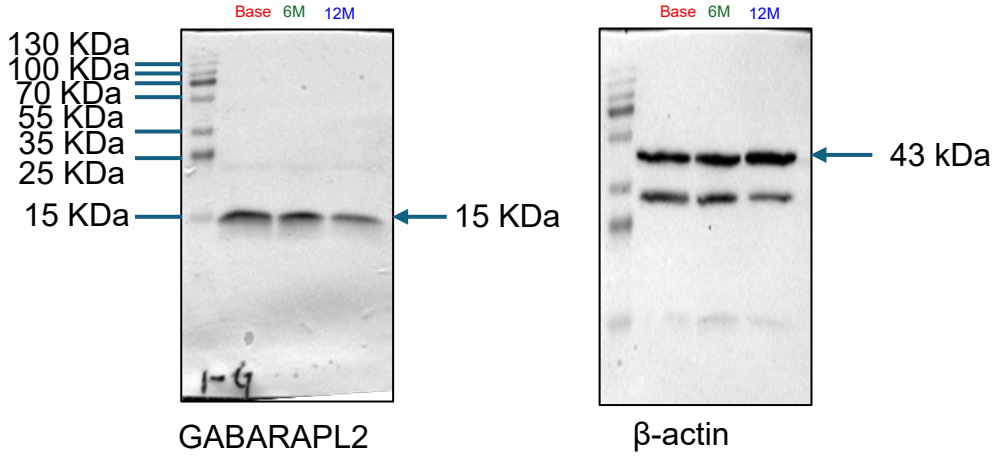


Technical Replicate - 4

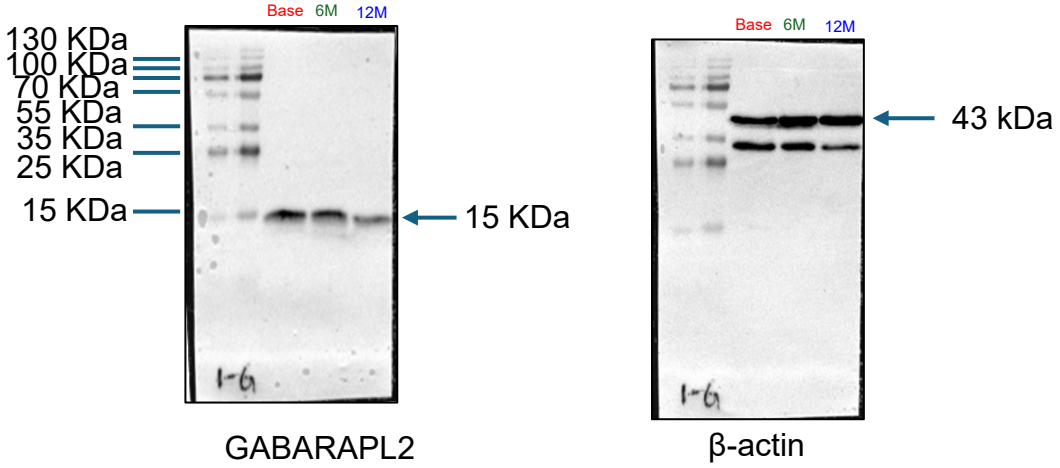


Supplementary Figure 1(C)

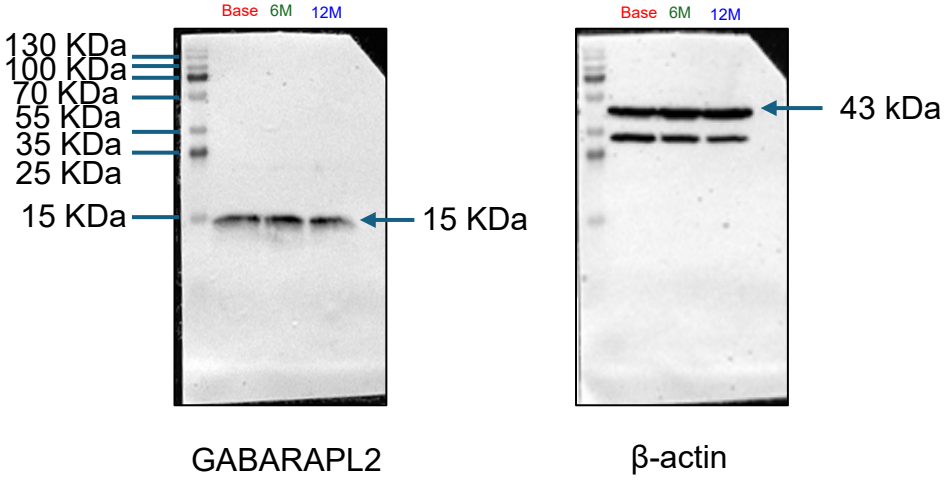
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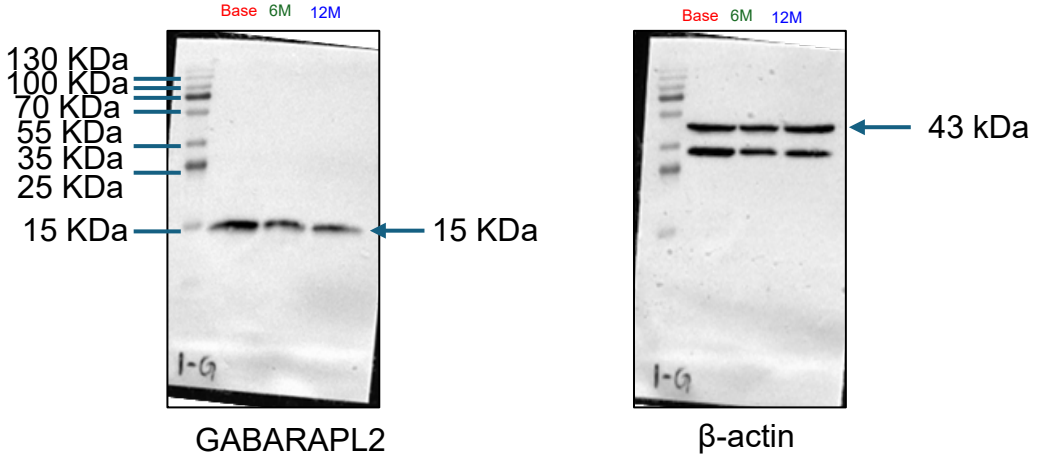
Technical Replicate - 2



Technical Replicate - 3

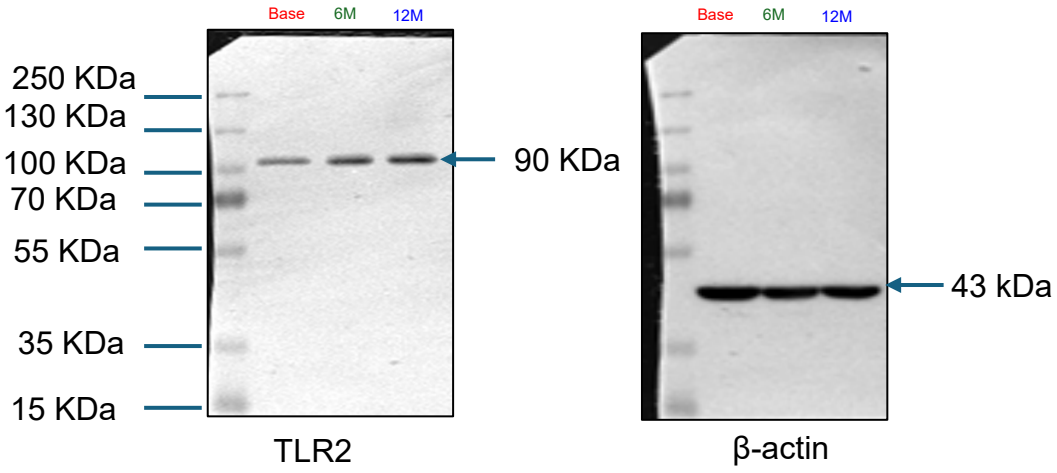


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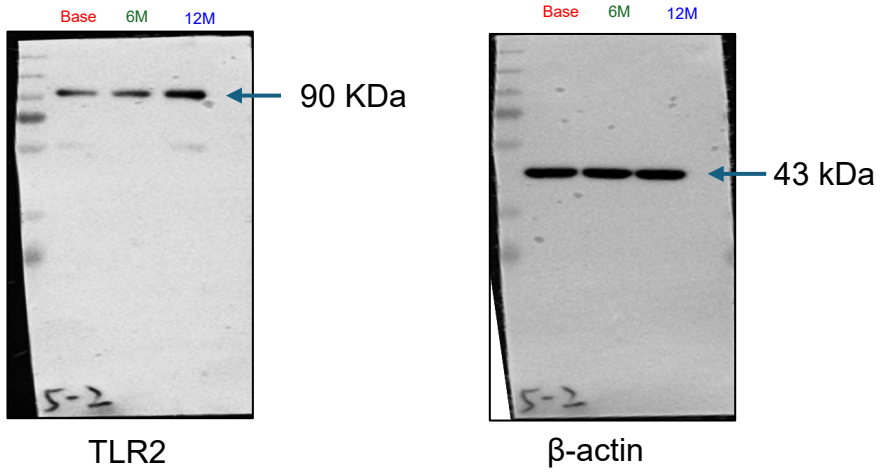


Supplementary Figure 1(D)

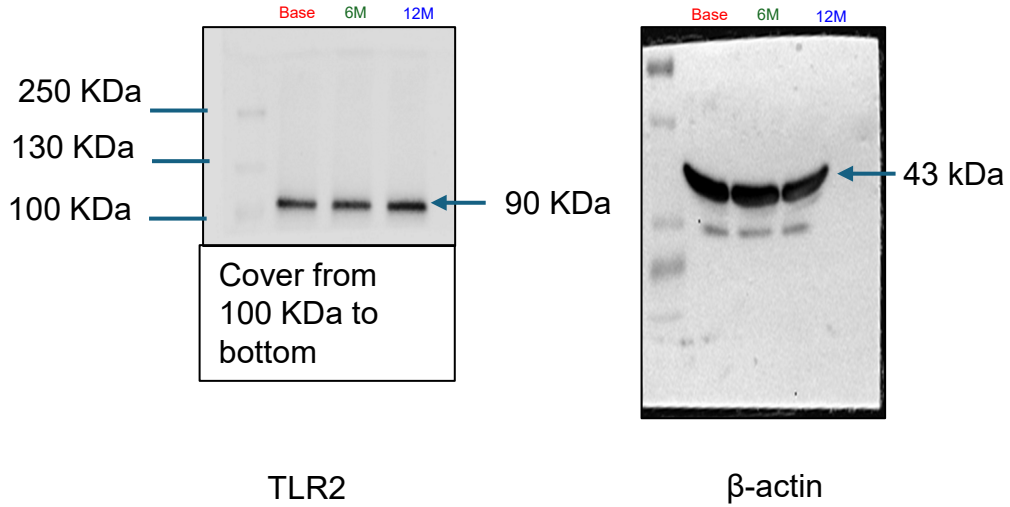
Technical Replicate - 1



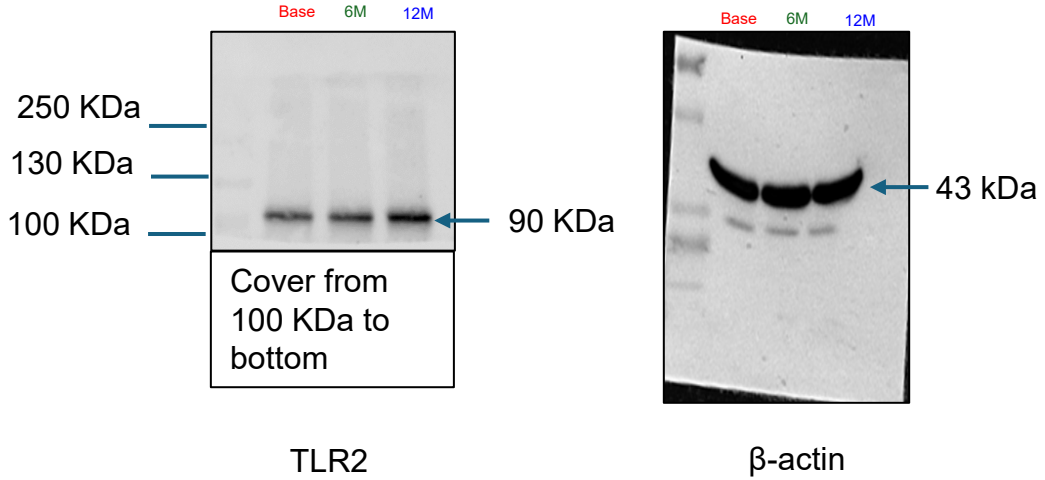
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Technical Replicate - 3

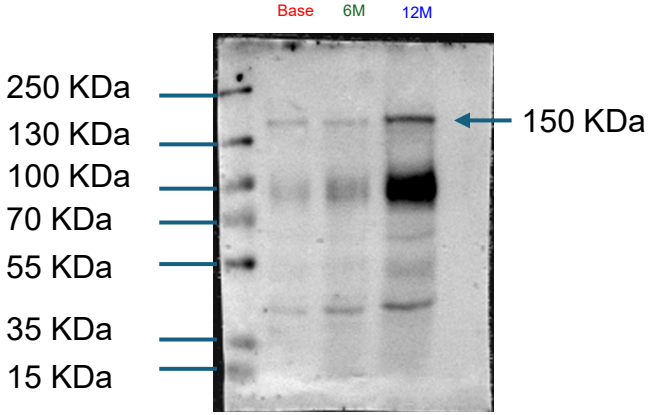


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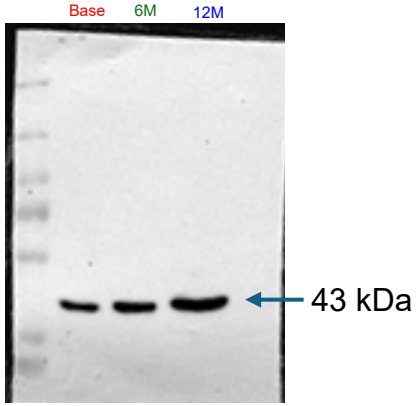


Supplementary Figure 1 (E)

Technical Replicate - 1

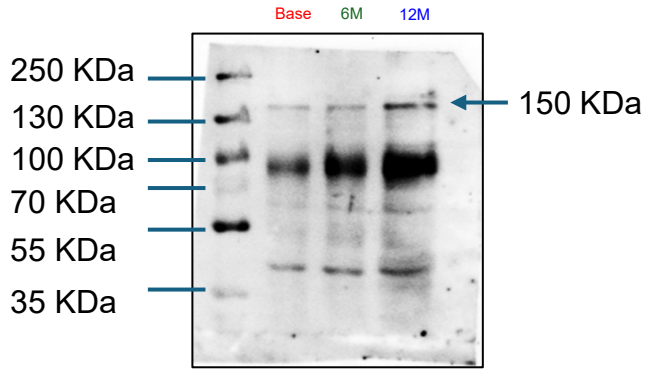


TLR8

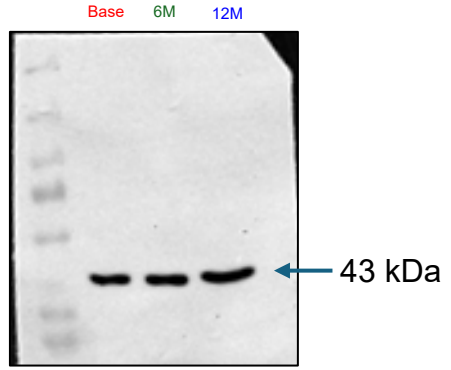


β actin

Technical Replicate - 2

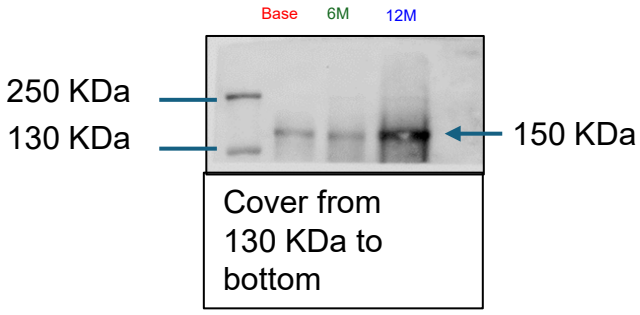


TLR8

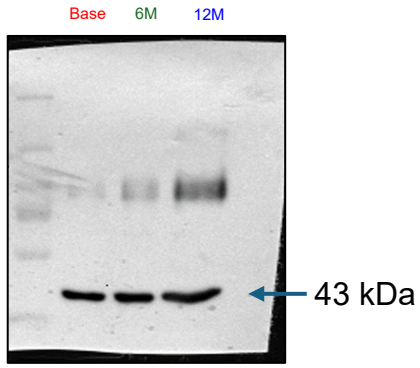


β actin

Technical Replicate - 3

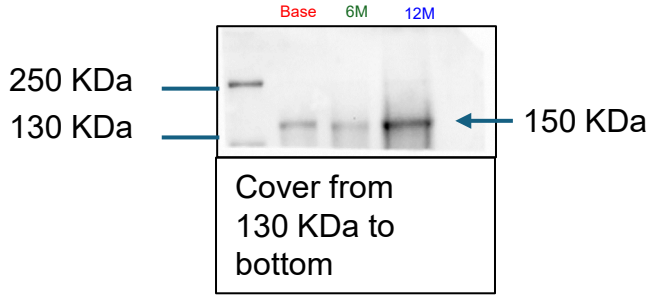


TLR8

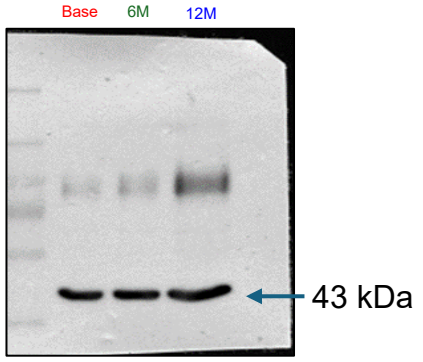


β actin

Technical Replicate - 4



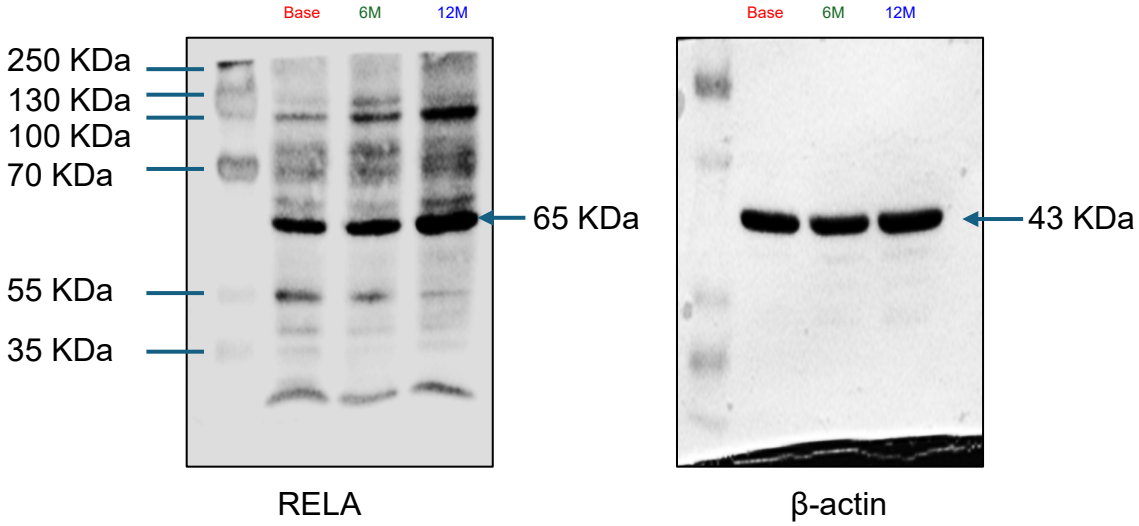
TLR8



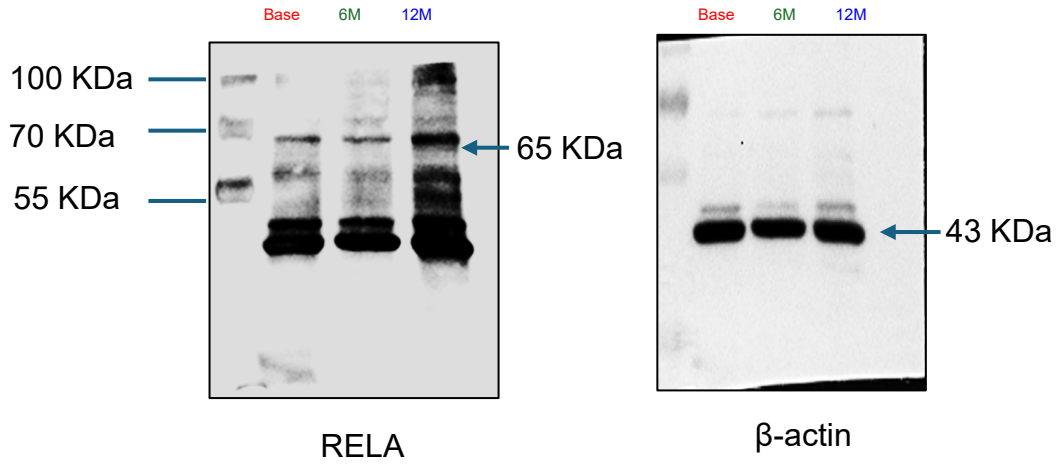
β actin

Supplementary Figure 1(F)

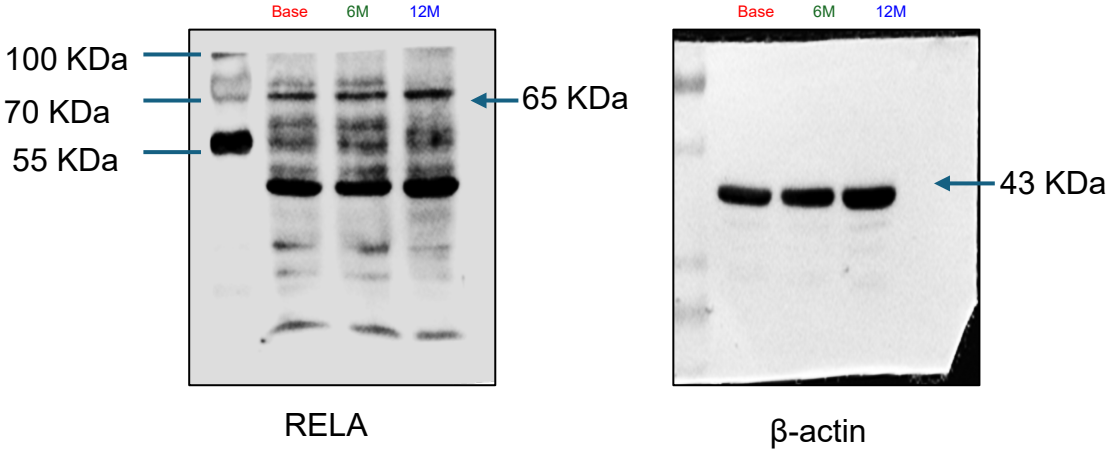
Technical Replicate - 1



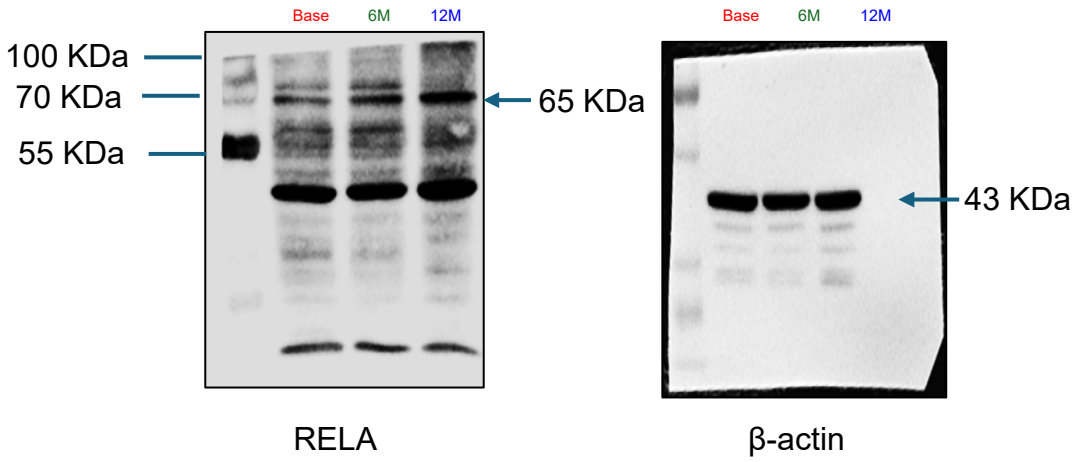
Technical Replicate - 2



Technical Replicate - 3

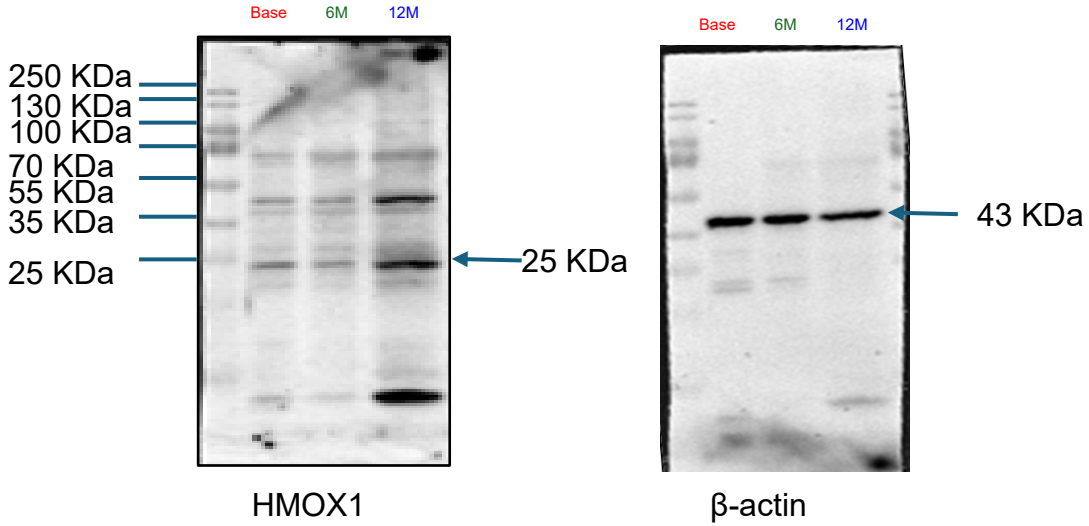


Technical Replicate - 4

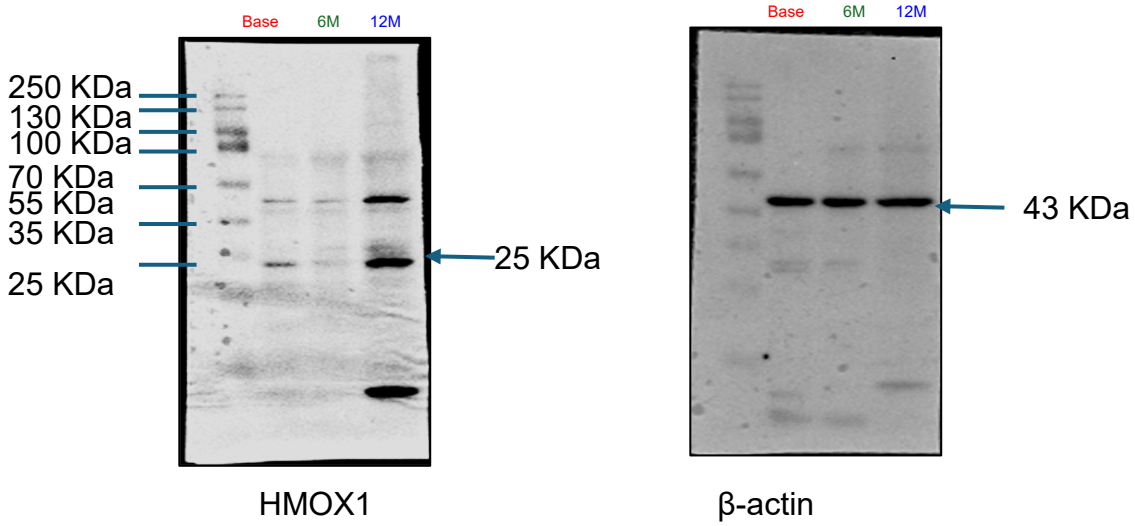


Supplementary Figure 1(G)

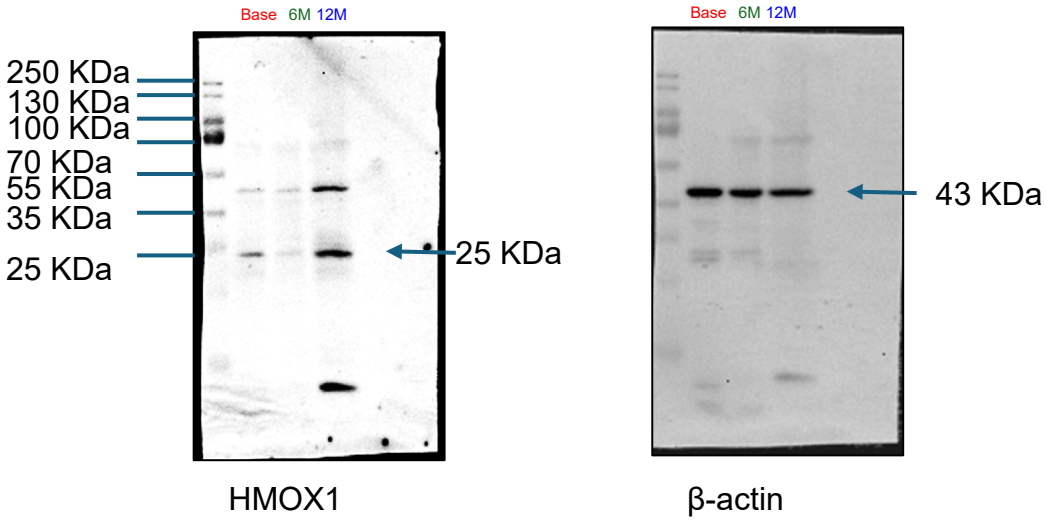
Technical Replicate - 1



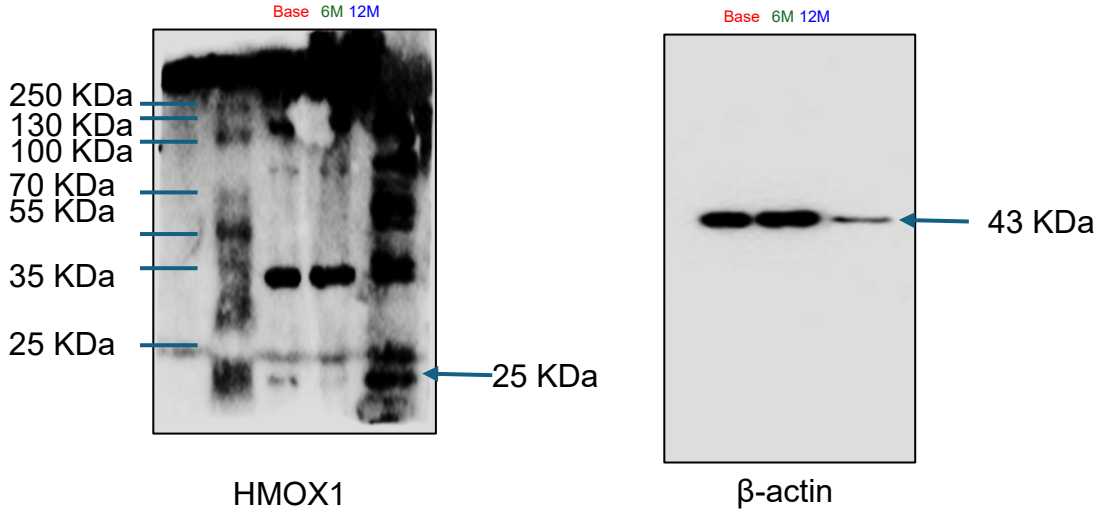
Technical Replicate - 2



Technical Replicate - 3

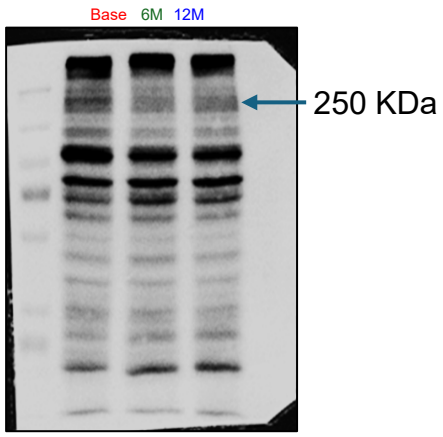


Technical Replicate - 4

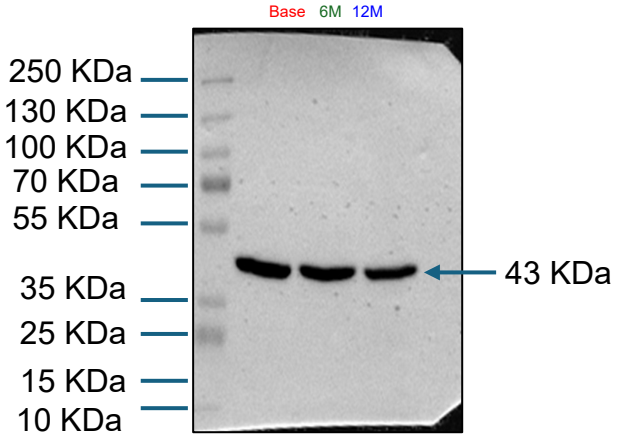


Supplementary Figure 1 (H)

Technical Replicate - 1

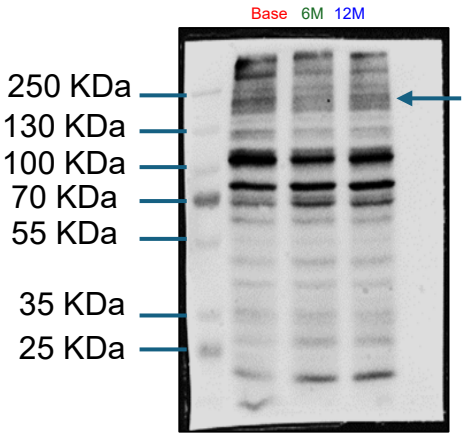


LRRK2

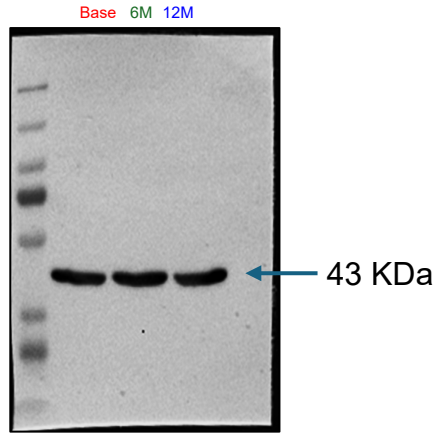


β actin

Technical Replicate - 2

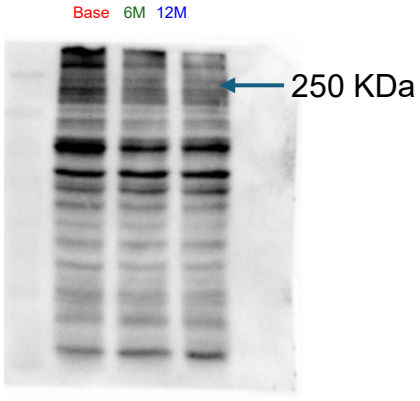


LRRK2

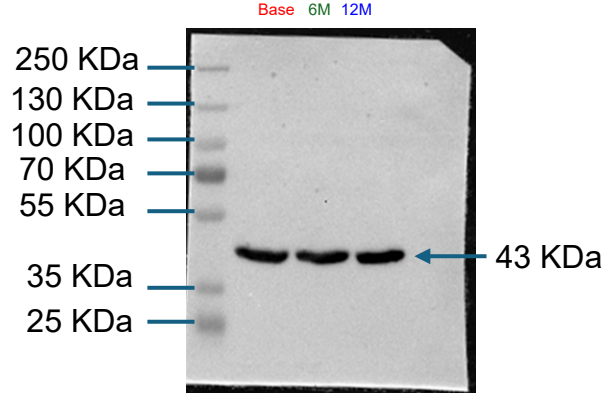


β actin

Technical Replicate - 3

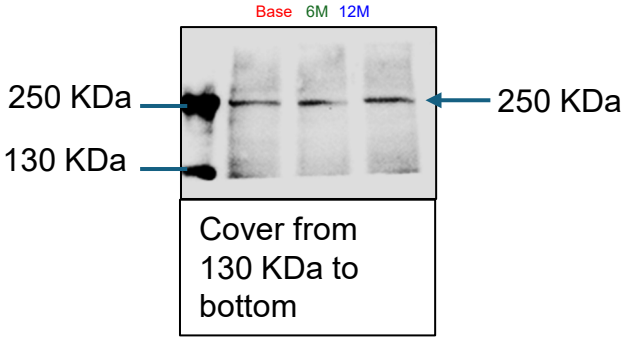


LRRK2

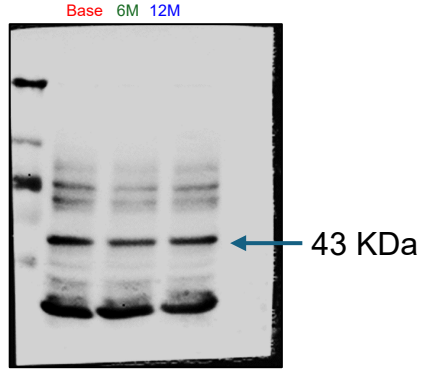


β actin

Technical Replicate - 4



LRRK2



β actin

Supplementary Figure 1 (I)

