

## Supplementary Material

SUPPLEMENTARY TABLE S1. TRACK-TBI PHASE 1 BIOMARKER COHORT DEMOGRAPHIC AND CLINICAL VARIABLES

Variable	Total TBI (n=1359)	TBI, CT- (n=810)	TBI, CT+ (n=549)	Orthopedic controls (n=122)	
Age (years)					
Mean (SD)	40.1 (17.0)	37.7 (15.9)	43.7 (17.9)	39.2 (15.0)	
Range	17-90	17-88	17-90	19-75	
Sex					
Female	435 (32.0%)	294 (36.3%)	435 (32.0%)	43 (35.3%)	
Male	924 (68.0%)	516 (63.7%)	924 (68.0%)	79 (64.7%)	
Cause of injury					
Road traffic accident	815 (60.1%)	533 (65.8%)	282 (51.7%)	37 (36.3%)	
Incidental fall	336 (24.8%)	166 (20.5%)	170 (31.1%)	39 (38.2%)	
Violence/assault	97 (7.1%)	42 (5.2%)	55 (10.1%)	1 (1.0%)	
Other	108 (8.0%)	69 (8.5%)	39 (7.1%)	25 (24.5%)	
Injury severity					
GCS 3-8	93 (7.3%)	8 (1.0%)	85 (17.6%)	0 (0%)	
GCS 9-12	48 (3.8%)	8 (1.0%)	40 (8.3%)	0 (0%)	
GCS 13-15	1137 (88.9%)	779 (98.0%)	358 (74.1%)	104 (100%)	
Prior TBI					
No	964 (71.0%)	534 (65.9%)	430 (78.5%)	91 (74.6%)	
Yes	394 (29.1%)	276 (34.1%)	118 (21.5%)	31 (25.4%)	
Loss of consciousness					
No	159 (11.8%)	102 (12.6%)	57 (10.5%)	109 (100%)	
Yes	1051 (77.7%)	631 (78.0%)	420 (77.4%)	0 (0%)	
Suspected	76 (5.6%)	47 (5.8%)	29 (5.3%)	0 (0%)	
Unknown	66 (4.9%)	29 (3.6%)	37 (6.8%)	0 (0%)	
Post-traumatic amnesia					
No	227 (16.8%)	170 (21.0%)	57 (10.5%)	109 (100%)	
Yes	885 (65.6%)	537 (66.4%)	348 (64.3%)	0 (0%)	
Suspected	86 (6.4%)	21 (2.6%)	65 (12.0%)	0 (0%)	
Unknown	152 (11.3%)	81 (10.0%)	71 (13.1%)	0 (0%)	
Alteration of consciousness					
No	208 (15.4%)	150 (18.5%)	58 (10.7%)	109 (100%)	
Yes	962 (71.3%)	553 (68.4%)	409 (75.6%)	0 (0%)	
Suspected	32 (2.4%)	14 (1.7%)	18 (3.3%)	0 (0%)	
Unknown	148 (11.0%)	92 (11.4%)	56 (10.4%)	0 (0%)	
Time to blood draw (h)					
Mean (SD)	14.3 (6.6)	13.1 (6.8)	16.1 (5.8)	13.3 (7.3)	
<b>Biomarkers</b>	<b>Total TBI (n=1359)</b>	<b>TBI, CT- (n=810)</b>	<b>TBI, CT+ (n=549)</b>	<b>Orthopedic controls (n=122)</b>	
GFAP (pg/mL)					
Median (IQR)	336 (69-1201)	116 (26-397)	1358 (472-3803)	13 (7-20)	<i>p</i> < 0.001
S100B (µg/L)					
Median (IQR)	0.12 (0.07-0.24)	0.10 (0.06-0.18)	0.17 (0.09-0.38)	0.08 (0.06-0.13)	<i>p</i> < 0.001

Certain *ns* for subgroups may not add up to the total column *n* because of small amounts of missing data.

CT, computed tomography; GCS, Glasgow Coma Scale; GFAP, glial fibrillary acidic protein; IQR, interquartile range; S100B, S100 calcium-binding protein B; standard deviation; TBI, traumatic brain injury; TRACK-TBI, Transforming Research and Clinical Knowledge in Traumatic Brain Injury.

SUPPLEMENTARY TABLE S2. AREAS UNDER THE CURVE (AUC) FOR CT+ vs. CT- BY BIOMARKER SAMPLING TIME INTERVALS

Time to blood draw	GFAP		S100B	
	n (CT-/CT+)	AUC (95% CI)	n (CT-/CT+)	AUC (95% CI)
0-6 h	221 (188/33)	0.93 (0.88-0.98)	206 (173/33)	0.77 (0.68-0.86)
7-12 h	272 (169/103)	0.81 (0.76-0.87)	248 (151/97)	0.67 (0.60-0.74)
13-18 h	365 (191/174)	0.84 (0.80-0.88)	353 (181/172)	0.71 (0.65-0.76)
19-24 h	478 (248/230)	0.85 (0.82-0.88)	457 (234/223)	0.68 (0.63-0.73)

Discriminability of GFAP and S100B by time interval post-injury are shown using receiver-operating characteristic (ROC) analysis, with respective AUCs shown.

CT, computed tomography; GFAP, glial fibrillary acidic protein; S100B, S100 calcium-binding protein B;