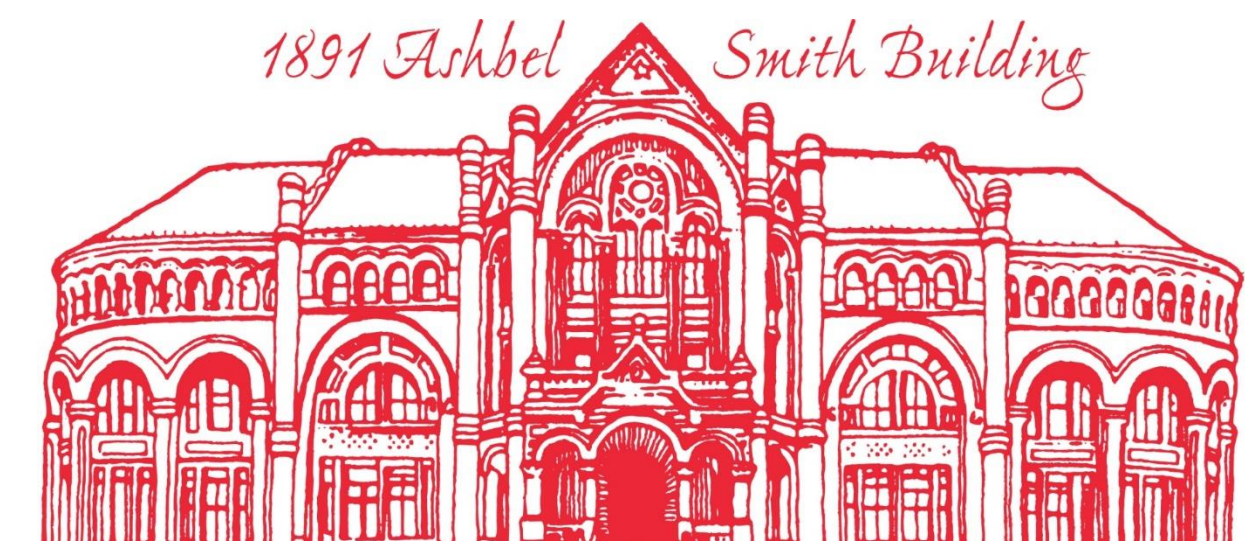


# Serum S100 calcium-binding protein B (S100B) is elevated in severe burn

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## Background

Severe burn causes a dramatic metabolic response associated with multi-organ damage. – Williams FN, et al. Crit Care. 2009

Severe burn impaired nerve system which displayed at brain, spinal cord, nerve endings. – Flierl MA, et al. Crit Care. 2009; Wu SH, et al. BioMed Research International. 2015; Bittner EA, et al. Anesthesiology. 2015

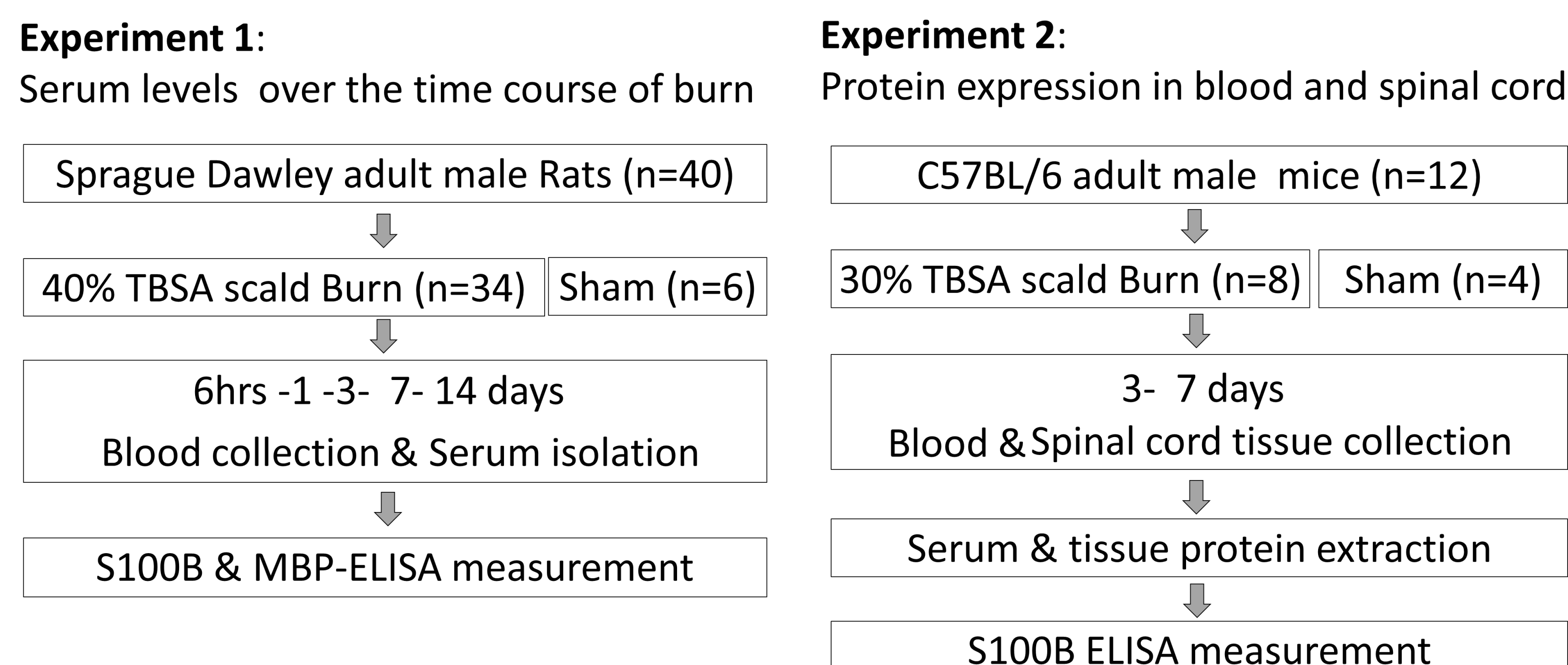
Serum biomarker detections were applied to estimate nerve system damage. S100 calcium-binding protein B (S100B) and Myelin basic protein (MBP) are correlated to traumatic brain injury and multiple sclerosis. – Goyal A. et al. J of Neurotrauma. 2013; Katsavos S, et al. Mult Scler Int. 2013

We hypothesize that severe burn caused nerve damage with elevated serum biomarkers.

## Aim

To investigate the potential biomarkers related to neural damage in response to severe burn.

## Methods



## Acknowledgement

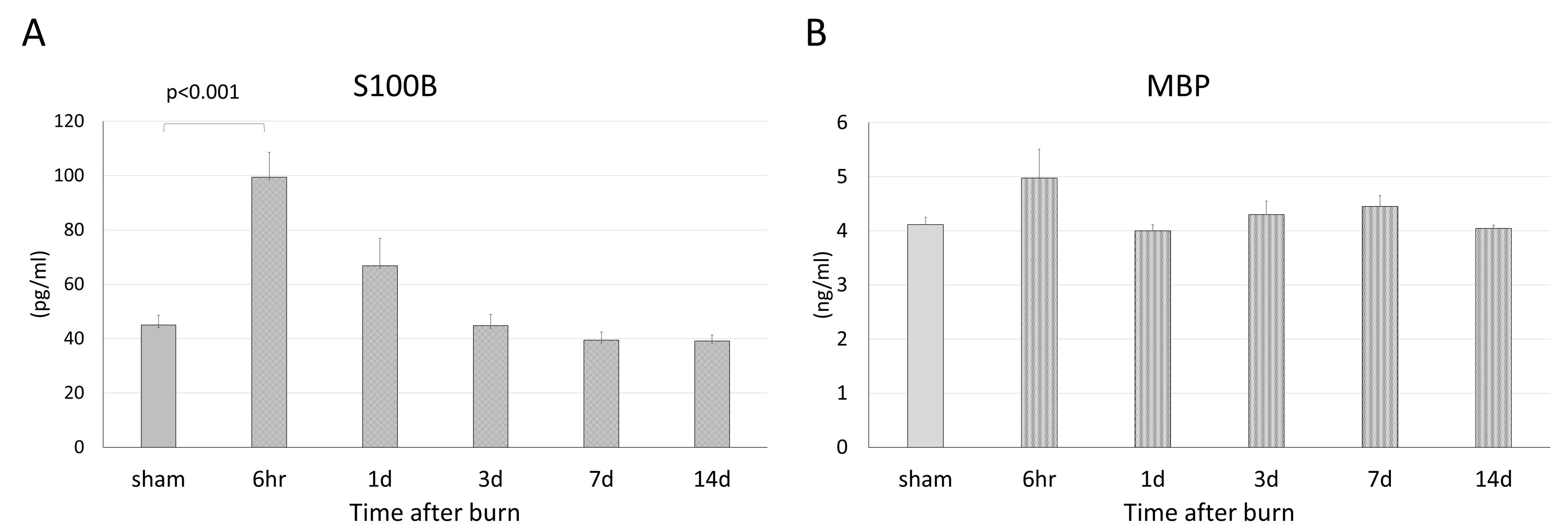
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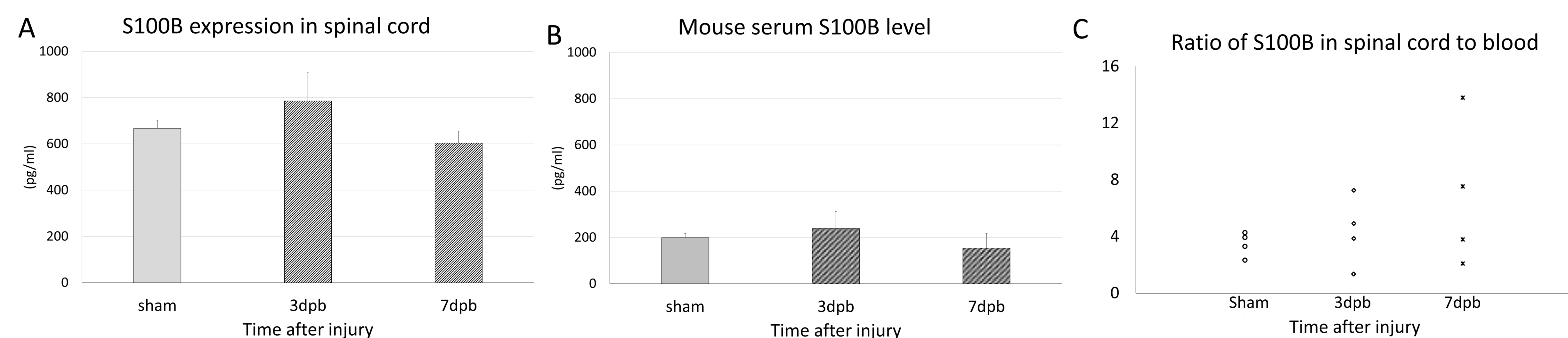
## Disclosures

I have no actual or potential conflict of interest in relation to this program/presentation.

## Results



**Figure 1** (A) S100B protein level in rat serum; (B) MBP protein level in rat serum; One way ANOVA, mean±SEM



**Figure 2** (A) S100B protein level in spinal cord tissue lysate; (B) S100B protein level in mouse serum; (C) The ratio of S100B in spinal cord tissue lysate to serum; mean±SEM

## Summary

The baseline of S100b level was 45.01 ± 3.58 pg/ml in the sham group. S100B significantly increased to 99.42 ± 9.13 pg/ml with no significant change at other time points. MBP serum level is 4.12 ± 0.13 ng/ml at baseline. MBP level did not change significantly in burn rats compared to sham.

S100B level was greater in spinal cord than in blood. S100B level did not altered at 3 days after burn in mouse serum and spinal cord tissue.

## Conclusion

S100B serum increased markedly after burn and returned to baseline thereafter. Burn did not change MBP levels.

The findings could lead to further efforts in elucidating changes in neural function after burn.