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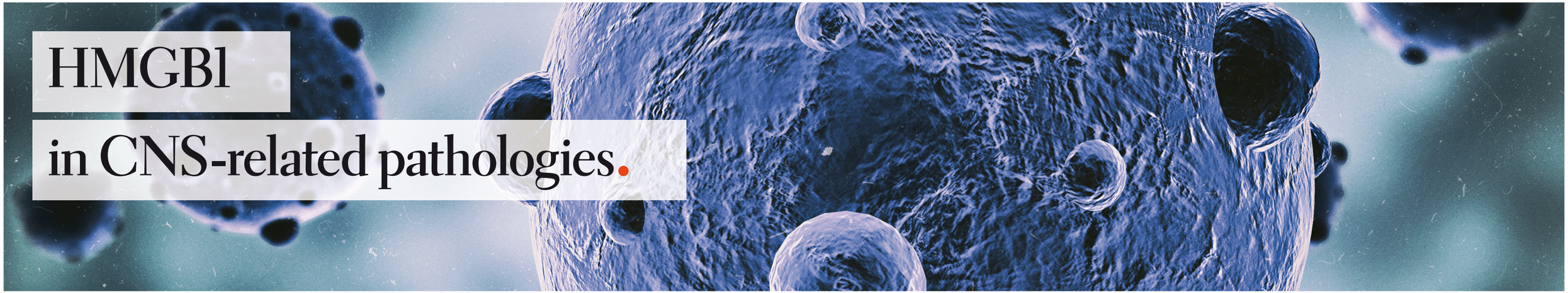
HMGB1 Neuro. EN 2016 V01

HMGB1 in neurodegeneration, neuroinflammation.

NEURODEGENERATION / NEUROTRANSMITTER



HMGB1 in CNS-related pathologies.

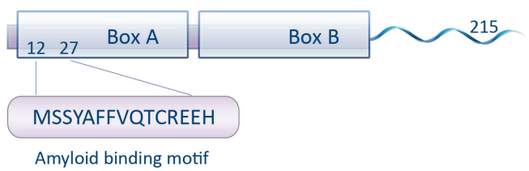
More recent research shows that HMGB1 plays a major role in CNS-related pathologies. The involvement of the innate immune system and thus HMGB1 in the development of these pathologies has not been studied in depth so far.

Only more recent research in the field of neurodegeneration has indicated that the role of the immune system in the development of neurodegenerative and neuroinflammatory processes hasn't truly been examined. HMGB1 has been shown to be an important mediator of the immune system.

Early research in 2003 showed that HMGB1 seems to regulate Amyloid-beta homeostasis and that HMGB1 stabilizes Amyloid-beta oligomers[1]. In later publications it was further shown that HMGB1 seems to inhibit microglial clearance of Amyloid-beta[2,3].

Since then the role of HMGB1 has been studied in many more CNS-related pathologies, such as HIV-Associated Neurodegenerative Disorders[4,5], Parkinson's disease[6], multiple sclerosis[7], Guillain-Barré Syndrome[8], Traumatic brain Injury (TBI)[9], Acute Hydrocephalus[10] and often their respective animal models[11, 12].

IBL International at the center of HMGB1 research
Through its collaboration with HMGB1 experts from academia and commercial partners, IBL International is at the forefront of new developments. We at IBL International offer the most complete range of products - including a highly sensitive ELISA for the quantitative measurement of HMGB1 - which have been widely used and are cited in many publications.



Amyloidogenic and amyloid binding motif of HMGB1 (Kallijärvi J. et al. Biochemistry. 2001; 40(34):10032-7.)

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4. Saïdi H. et al. HMGB1-dependent triggering of HIV-1 replication and persistence in dendritic cells as a consequence of NK-DC cross-talk. PLoS One. 2008;3(10):e3601.
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7. Wang H. et al. Cerebrospinal fluid high-mobility group box protein 1 in neuromyelitis optica and multiple sclerosis. Neuroimmunomodulation. 2013;20(2):113-118.
8. Zhang DQ. et al. Reduced soluble RAGE is associated with disease severity of axonal Guillain-Barré syndrome. Sci Rep. 2016 Feb 23;6:21890

9-37 If you wish to receive a complete list of the referenced articles, please contact us at ibl@tecan.com

HMGB PRODUCTS

Immunoassay	Catalog#	Determ.	Assay range	Incubation time	Sample type
HMGB1 ELISA	ST51011	96 well	2.5 – 80 ng/mL or 0.313 – 10 ng/mL	1st: 37 °C, 18 h 2nd: RT, 2 h 3rd: RT, 30 min	Serum[13], plasma[14], BALF[15], CSF[16], urine[17], cell culture supernatant[18] and tissue extracts[19] All mammals[20-23]

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Antibodies*	Catalog#	Quantity	Intended use
Anti-HMGB1 Rabbit IgG PoAb	ST326052219	50 µg	WB (1-2 µg/mL), IHC[24], immunofluorescence[25] and immunoprecipitation[26]
Anti-HMGB1 Chicken IgY PoAb	ST326052226	50 µg	WB[27] (1-2 µg/mL)
Anti-HMGB1 Chicken IgY Neutralising PoAb	ST326052233	1 mg	WB and neutralization experiments[28-31] (2 mg/kg/mouse)
Anti-HMGB1,2 Mouse IgG1 MoAb	ST326052240	50 µg	WB (1-2 µg/mL)
Anti-HMGB1 [DPH1.1] Mouse IgG1 MoAb	REHM901	50 µg	WB[32] (1 µg/mL), immunofluorescence[32], IHC, blocking experiments in cell migration assay[32] and blocking recruitment of inflammatory cells to sites of necrosis and infection in vitro and in vivo (220 µg/mouse)[32]
	REHM902	250 µg	
	REHM903	1 mg	

Protein isoforms and related proteins*	Catalog#	Quantity	Intended use
Fully reduced HMGB1, LPS-free	REHM114	500 µg	To study HMGB1 cell migratory effects in vitro[33] and in vivo
	REHM115	100 µg	
	REHM116	50 µg	
Disulfide HMGB1, LPS-free	REHM120	500 µg	To study HMGB1 induced cytokine effects in proinflammatory processes[35]
	REHM121	100 µg	
	REHM122	50 µg	
BoxA from HMGB1, LPS-free	REHM012	100 µg	To study HMGB1-RAGE interaction by using BoxA as an antagonist for HMGB1[33,34]
	REHM013	500 µg	
	REHM014	2 mg	
BoxB from HMGB1, LPS-free	REHM052	100 µg	To study HMGB1 induced cytokine activity by measuring BoxB as a read out[36]
	REHM051	250 µg	
	REHM050	1 mg	
HMGB2, LPS-free	REHM151	500 µg	To study HMGB2 induced fibroblast migration[37]
	REHM152	100 µg	
	REHM153	50 µg	

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