Neuroinflammation

FOCUS BIOMOLECULES

Microglia have been implicated in the pathology of neurodegenerative diseases. A growing body of evidence points to activated microglia as the source of numerous factors including TNF-α, IL-1β, NO and ROS which can promote neuronal damage.[1] Many new compounds have been discovered which can attenuate microglial activation via different mechanisms. These may lead the way to the development of a new generation of therapeutic agents for neurodegenerative diseases. Some of these new agents are listed below.

Leonurine

Inhibits microglial over-activation and attenuates Aβ(1-40)-induced cognitive impairments in rats via JNK and NF-κB pathways.[2] Antiapoptotic activity.

Product No: 10-3193 10 mg/ 50 mg/

Vinpocetine

Reduces inflammatory IL-2β and TNF-α expression in rat hippocampus[3], displays beneficial effects in a rat model of cerebral ischemia-reperfusion injury[4] and exerts neuroprotective effects by suppressing microglial inflammation[5].

Product No: 10-1126 50 mg/ 250 mg/

Ibudilast

A pan-specific phosphodiesterase inhibitor, which displays protective effects on neuronal cell death induced by activated microglia.[6]

Product No: 10-2236 5 mg/ 25 mg/

Minocycline

Displays neuroprotective[7] as well as anti-apoptotic and anti-inflammatory activities.

Product No: 10-2568 100 mg/ 500 mg/

SB-225002

CXCR2 antagonist. Inhibits leukocyte recruitment to cerebral microvessels during neuroinflammation[8] and blocks oxidative stress-induced cellular senescence[9].

Product No: 10-2850 5 mg/ 25 mg/

FTY720 HCl (Fingolimod)

Displays immunosuppressive effects on microglia resulting in beneficial CNS effects.[10]

Product No: 10-2138 50 mg/ 250 mg/

Auranofin

Reduces neuroinflammation by inhibiting microglia respiratory burst and TNF-α secretion.[11]

Product No: 10-2373 25 mg/

ISO-1

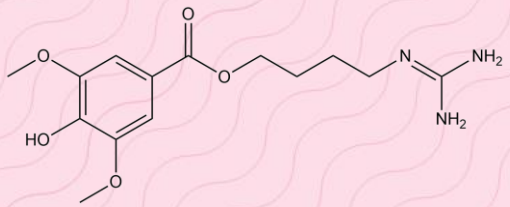
A macrophage migration inhibitory factor (MIF) antagonist. Reverses Aß-induced toxicity in various neuronal cell lines.[12]

Product No: 10-1185 5 mg/ 25 mg/

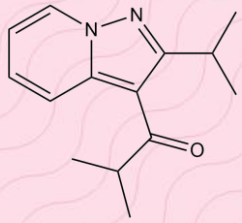
FPS-ZM1

A high affinity RAGE antagonist. Attenuates AGE-induced neuroinflammation and oxidative stress in rat microglia.[13] Attenuates blood brain barrier damage.

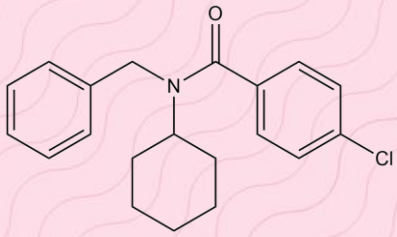
Product No: 10-4616 10 mg/ 50 mg/



Leonurine



Ibudilast



FPS-ZM1

REFERENCES

1. Lull and Block (2010), Neurotherapeutics **7** 354
2. Hong *et al.* (2014), Neuroinflammation **11** 147
3. Gomez *et al.* (2014), J. Neurochem. **130** 770
4. Wang *et al.* (2014), Neuro. Sci. Lett. **566** 247
5. Zhao *et al.* (2011), Neuron Glia Biol. **7** 187
6. Mizuno *et al.* (2004), Neuropharmacology **46** 404
7. Tikka (2001), J. Neurosci. **21** 2580
8. Wu *et al.* (2015), Neuroinflammation **12** 98
9. Shen *et al.* (2013), Int. Immunopharmacol. **16** 261
10. Das *et al.* (2017), Neuropharmacology **119** 1
11. Madeira *et al.* (2014), J. Neuroimmunol. **276** 71
12. Bacher *et al*. (2010) Mol. Med. **16** 116
13. Shen *et al*. (2017) Neurochem. Res. **40** 2902

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