Expression of Myeloid Differentiation Factor 88 in Neurons Is Not Requisite for the Induction of Anorexia and Lethargy by Interleukin-1β

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Disclosures

Nothing to disclose.
INFLAMMATION

Cancer

RT

Anorexia
Fatigue (Lethargy)

Chemo
INFLAMMATION

Anorexia
Fatigue
(Lethargy)

MyD88

IL-1β

IL-1RI

MyD88

NF-κB

neuron

microglia

endothelium
Sickness Behavior is MyD88-dependent

WT v. MyD88KO

IL-1β (10 ng)

Food Intake
Locomotor Activity

OVERNIGHT

Grossberg et al. J Neuroinflamm 2012
MyD88\textsuperscript{ΔCNS} Mice Do Not Express MyD88 in Neurons or Astrocytes

NestinCre

\textbullet

MyD88\textsuperscript{lox} (tdTomato)
MyD88\textsuperscript{ΔCNS} Mice Are Not Resistant to IL-1\textbeta induced Anorexia or Lethargy

Grossberg et al. *J Neuroinflamm* 2012
MyD88Δendo Mice Are Protected from IL-1β induced Anorexia & Lethargy

Tie2Cre (endothelium & microglia) x MyD88lox → MyD88lox v. MyD88Δendo

IL-1β (10 ng)

Grossberg et al. unpublished
Summary

1. Neuronal MyD88 expression is not required for sickness behavior
2. MyD88 in cerebrovascular or perivascular cells is essential for the behavioral effects of brain IL-1β
3. Systemic therapy addressing anorexia and fatigue need not penetrate the blood brain barrier
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