

Depression and the role of curcumin

1 IN 7
Australians will experience **DEPRESSION** in their lifetime⁹

Depression **AFFECTS WOMEN** more than **MEN**⁹

17%
10%

Depression has the **THIRD HIGHEST BURDEN OF ALL DISEASE** in Australia¹⁰

#1 **CAUSE OF NON-FATAL DISABILITY** in Australia¹⁰

Depression will be the **NUMBER 1 HEALTH CONCERN** in both developing and non-developing nations **BY 2030**¹¹

WHAT IS DEPRESSION?^{12,13}

Depression is a mood disorder that causes a persistent feeling of sadness and loss of interest. It affects how you feel, think and behave, and can lead to a variety of emotional and physical problems. You may have trouble doing normal day-to-day activities, and depression may make you feel as if life isn't worth living.

SYMPTOMS¹²⁻¹⁴

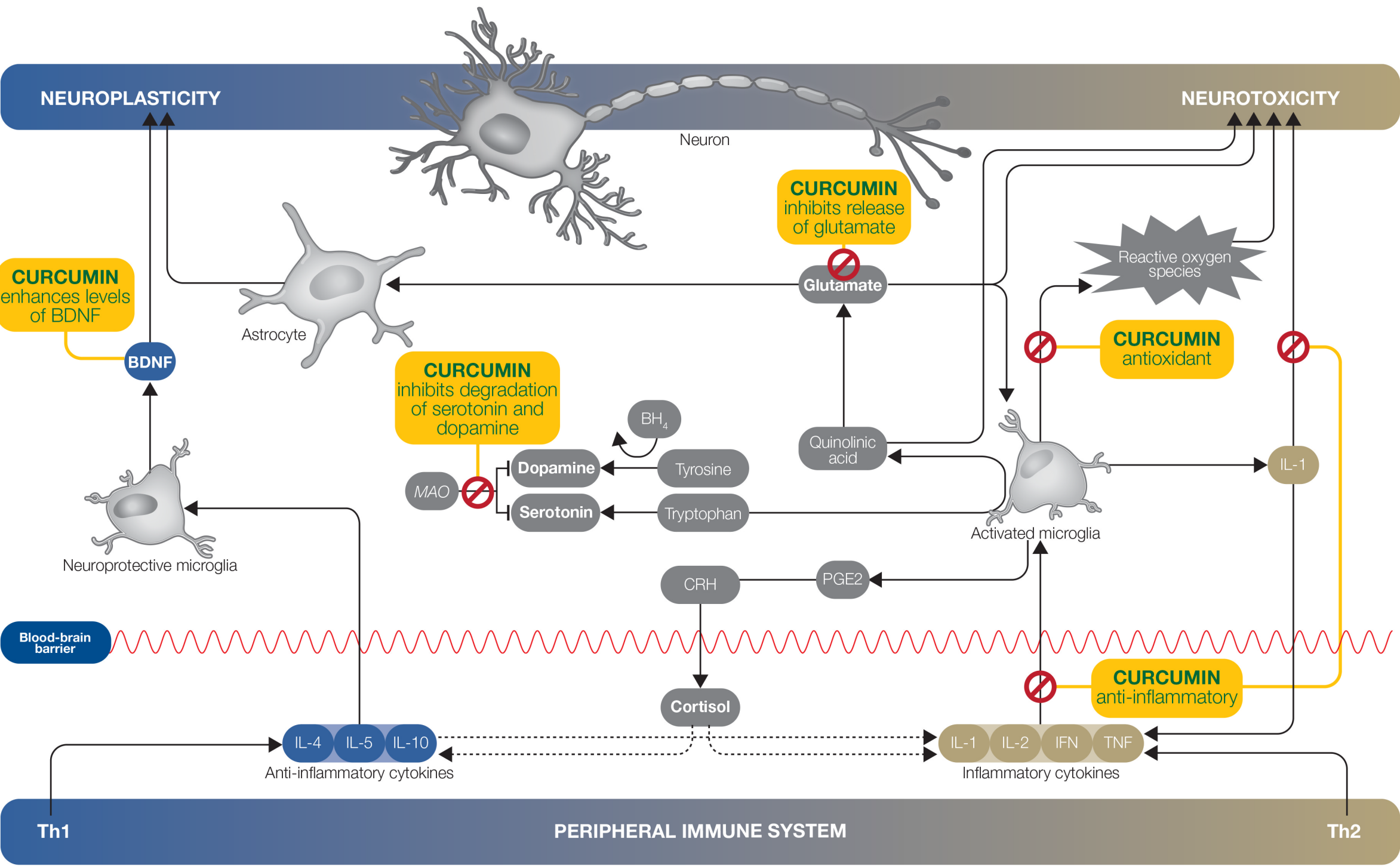
- Feelings of sadness, emptiness or unhappiness
- Angry outbursts, irritability or frustration
- Loss of interest or pleasure in normal activities
- Sleep disturbances, including insomnia or hypersomnia
- Tiredness and lack of energy
- Changes in appetite — reduced appetite and weight loss, or increased cravings for food and weight gain
- Anxiety, agitation or restlessness
- Slowed thinking, speaking or body movements
- Feelings of worthlessness or guilt
- Difficulty with concentration, decision making and memory
- Thoughts of death or suicidal thoughts
- Unexplained physical symptoms, e.g. back pain or headaches

CAUSES¹²⁻¹⁴

The exact cause of depression remains unknown. However, as with many mental disorders, a variety of factors may be involved, such as:

- **Biological differences.** People with depression appear to have physical changes in their brains.
- **Brain chemistry.** Neurotransmitter imbalance – reduced levels of serotonin, dopamine and noradrenaline.
- **Hormones.** Changes in the balance of hormones may be involved in causing or triggering depression. Hormone changes can result from thyroid problems, menopause or a number of other conditions. About 50% of depressed individuals have elevated cortisol levels in their blood.
- **Genetic factors.** Depression is more common in people whose biological relatives also have this condition. The genetic risk of developing clinical depression is about 40% if a biological parent has been diagnosed with illness.
- **Life events.** Traumatic events such as the death or loss of a loved one, financial problems, high stress or childhood trauma can trigger depression.
- **Physical illness.** Certain cancers or compromised immune functioning may be involved.
- **Personality.** Certain temperament and personality styles pose a higher risk for developing depression, e.g. highly anxious, shyness or social avoidance, self-criticism or low self-worth, high interpersonal sensitivity, perfectionism.

THE ANTIDEPRESSIVE ACTIONS OF CURCUMIN^{1,14-17}



BDNF: brain-derived neurotrophic factor; MAO: monoamine oxidase; BH₄: tetrahydrobiopterin; CRH: corticotropin releasing hormone; PGE2: prostaglandin E2; IL: interleukin; IFN: interferon; TNF: tumour necrosis factor; Th1: T helper cell 1; Th2: T helper cell 2