

Special Issue on
**New Discovery of Curcumin Combination Therapy and
 Action Mechanism**

CALL FOR PAPERS

Each drug or treatment method approved by the FDA must be proved of its effectiveness in the clinic. Due to the limitation of maximum dosages, resistances, or other factors, the therapeutic response with monotherapy may not always be as expected, whereas combination therapy may offer some advantages and improve clinical outcomes. Natural products are an important source of drug research for the future. A novel application of natural substances is combination therapy, which consists of the administration of two or more substances, such as conventional chemotherapeutics plus a natural compound, or multiple natural compounds at a time.

Curcumin (*diferuloylmethane*, a yellow pigment in spice turmeric) is a natural product polyphenol extracted from the rhizome of *Curcuma longa*. Direct curcumin targets include cyclooxygenase 2 (COX-2), lipoxygenase, nuclear factor erythroid 2-related factor 2, toll-like receptor (TLR)4, focal adhesion kinase, glutathione, glycogen synthase kinase- (GSK-) 3 β , phosphorylase-3 kinase, xanthine oxidase, pp60 src tyrosine kinase, and ubiquitin isopeptidase, which play an important role in oxidative stress, inflammation, autophagy, and apoptosis. Curcumin has been widely used in pharmaceutical and medical applications because of its broad spectrum of biological actions, including antibacterial, antiviral, antifungal, and anti-inflammatory activity. Based on these targets or pathways, curcumin has been proposed to increase the therapeutic efficiency of some drugs, albeit the potential molecular mechanism remains unclear. Importantly, available preclinical and phase I/II data suggest that curcumin is well tolerated and has a good safety profile. A classic example is the combination between curcumin and polymyxins whereby in addition to its synergistic antimicrobial activity, curcumin could potentially ameliorate unwanted neurotoxicity induced by polymyxins. With the proposal of concept on precision medicine in the clinic, the underlying molecular mechanism and potential target for the combination therapy are much emphasized.

This special issue intends to compile original research and review articles, which address the precise molecular mechanisms based on curcumin combination therapy, as well as the new combination and discovery therapy against diseases such as cancer, inflammation, and infections. Studies focusing on the toxicology and pharmacology effects during therapy based on curcumin combination are also welcome.

Potential topics include but are not limited to the following:

- ▶ The discovery of new combination therapy based on curcumin against infections, cancer and inflammatory disease, and the precise molecular mechanisms
- ▶ The discovery of new targeted molecules based on curcumin combination therapy
- ▶ The action mechanism of curcumin combination on cell apoptosis, autophagy, and inflammatory response in vivo or in vitro
- ▶ Discoveries of new combinations between curcumin and current chemotherapy drugs
- ▶ New findings of curcumin's protection on the toxicology effect caused by drugs or toxins in vivo or in vitro

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/ecam/cuct/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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