SHORT COMMUNICATION

SYNTHESIS AND EVALUATION OF NARINGENIN ANALOGS FOR FREE RADICAL SCAVENGING ACTIVITY

ABSTRACT

Naringenin, a flavanone widely found in citrus fruits, possesses significant antioxidant properties due to its inherent hydroxyl groups. However, poor bioavailability often limits its therapeutic application. To overcome this, three derivatives-5,4'-dihydroxy-7-ethoxyflavanone (NA1), 4',7-dihydroxyflavanone-5-yl benzoate (NA2), and 4'-hydroxy-5,7-dimethoxyflavanone (NA3)-were prepared through targeted chemical modifications of the parent molecule. The synthesized compounds were subjected to DPPH assay for scavenging activity. Analog NA1 demonstrated a notable enhanced scavenging capacity (IC_{50}=12.4±0.7) compared to the parent naringenin (IC_{50}=21.8±1.1), suggesting that certain modifications can optimize the pharmacophore for improved activity.

Keywords: Naringenin, DPPH, 5,4'-dihydroxy-7-

routes (Fig. 1). NA-1 was prepared by selective