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Abstracts



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intracellularly with acetyl CoA to form an acetyl thioester intermediate. This S-acyl intermediate reacts directly with NCp7 to transfer an acetyl group to the protein, leading to zinc ejection, inactivation of NCp7, and regeneration of the original mercaptobenzamide molecule which can re-enter the acetyl CoA acylation pathway. Therefore, N-(3-amino-3-oxopropyl)-2-mercaptobenzamide acts as a catalytic HIV inactivator where a single molecule has the potential to inhibit multiple NCp7 molecules. In addition to presenting the mechanism of action, recent results on antiviral activity, formulation, and translation of prodrug derivatives to an orally bioavailable drug will be presented.

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Track: Biologics

BIOACTIVE PROPERTIES OF TURKISH ENDEMIC *ASTRAGALUS CHRYSOCHLORUS*

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Astragalus L. species are old and well known curative plants with immunostimulant, hepatoprotective, antiperspirant, diuretic, and tonic properties. Flavonoids, triterpenoid glycosides, cycloartane saponins and polysaccharides have been isolated from this genus. It has been reported that crude extracts of some Astragalus species have anti-viral and cytotoxic activity.

Almost 50% of 450 Astragalus species are endemic and they are used primarily for the production of the economically important gum tragacanth and also for curative purposes in Turkey. *A. chrysochlorus* Boiss. & Kotschy is one of Turkish endemic species, listed in the Turkish red list and is traditionally used for wound healing.

We have established efficient *in vitro* cell culture, regeneration and transformation systems of *A. chrysochlorus* to study and produce of its secondary metabolites. First two enzyme genes of the phenylpropanoid pathway (PAL and C4H) were cloned and characterized. Optimized cell cultures of *A. chrysochlorus* have shown high PAL and C4H activities and accumulation of phenolic compounds by biotic elicitation. In addition to antioxidant activity phagocytic, cytotoxic and apoptotic activities of root extracts of *A. chrysochlorus* were shown in neutrophylic, Vero and Hela cells, respectively. Nicotiflorin (Kaempferol 3-O-rutinoside) and a new cycloartane-type triterpenoic glycoside was isolated from *A. chrysochlorus*.

Keywords: *Astragalus chrysochlorus*, biological activities, nicotiflorin, phenylpropanoid pathway.
