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Sialic acid O-acetylation as characteristic marker for recombinant erythropoietins

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Abstract

The presence of O-acetylations on sialic acids of recombinant erythropoietins (EPO) has been described in previous literature [1,2]. Shahrokh *et al.* observed that Dynepo (epoetin delta), an epoetin produced in a human cell line but no longer marketed, contained no O-acetylations in contrast to three other originator erythropoiesis stimulating agents (Eprex, NeoRecormon, Aranesp)[3]. In 2011, Reichel presented first high accuracy mass spectrometric data of human urinary erythropoietin at the MDI workshop. Human urinary EPO did also not show O-acetylations (for sensitivity reasons only O-glycans were investigated). In order to clarify whether O-acetylations of sialic acids may pose a specific marker for recombinant erythropoietins, a comprehensive mass spectrometric study was performed specifically on the O-glycans of 40 EPO pharmaceuticals including many biosimilar epoetins.
For more details refer to the full article published in Drug Testing and Analysis [4].

References:
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