Proteins with lectin activity have been isolated and identified from human placenta. Protein fractions isolated from both amnion and chorion are characterized by lectin activity (AmS₁, AmS₂, Chr S₁, ChoS₂).

Specific and Total activity in amnion tissue is 3 times more intense than in chorion. Carbohydrate inhibition intensity of hemagglutination activity of amnion protein fraction AmS₂ decreases respectively as D-Gal, GalNac, Lac, D-Glc, GlcNAc, D-Man. Galactose-specific lectin has been purified on agarose affinity sorbent with HPLC method on Gel-filtrated Ultrapac TSK G3000 SW column. Fe²⁺, Zn²⁺, Mn²⁺, Ba²⁺ and Pb²⁺ from bivalent ions do not affect the protein activity. Ca²⁺ and Mg²⁺ influence the activity of Amn S₂-Gal protein.

The maximum activity of lectins was manifested at +37⁰C, +40⁰C and +45⁰C and lectinal activity was absent at +55⁰C.

Human placenta Gal-specific lectin has the ability to bind steroid hormone specific IgG antibodies (by DELFIA method). Accordingly, suggestion was made that Gal-specific lectin has similar activities as steroid hormones.

It has been determined that Gal-specific lectins of human placenta chorion and amnion do not reveal specificity to any group of human blood among those of four ABO system groups, and do not cause an agglutination of the erythrocytes. These lectins are unable to provoke or change proliferation of T-lymphocytes.

Summary:

Obtained results give us the possibility to continue current research of other pathologies as well.

