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## P9: THE INTERPLAY BETWEEN sFRP3 AND DVL3 IN GLIOBLASTOMA

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In the present study the expression patterns of critical molecular components of Wnt signaling pathway – sFRP3 and DVL3 protein were investigated in 34 glioblastoma patients.

Immunostaining and Image J analysis revealed the quantity and subcellular localization of the proteins. The protein expression levels in tumor tissue were evaluated by the semiquantitative method in the 3-stage signal strength and immunoreactivity score (IRS). Majority of glioblastomas had moderate levels of expression for both DVL3 (52.4%) and sFRP3 (52.3%). Strong expression levels of DVL3 and sFRP3 proteins were observed in 23.1% and 36.0% of samples, respectively. DVL3 was localized in cytoplasm in 97% of glioblastoma, of which 44% coexpressed the protein in the nucleus. The analysis of sFRP3 protein's subcellular distribution showed that it was localized in the cytoplasm in 94% of cases. Colocalization in the cytoplasm and nucleus was observed in 50% of samples. No significant correlation between DVL3 and sFRP3 mutual expression was established, nor were signal strengths correlated with epidemiological parameters. Wilcoxon test indicated that the domination of the strong signal in cells is in connection with simultaneous localization of DVL3 protein in the cytoplasm and the nucleus. Patients with strong expression of DVL3 will significantly more often have the protein in the nucleus ( $P=6.33 \times 10^{-5}$ ). Strong signal for sFRP3 did not show such an association.

Our study shows that dynamic changes in the expression levels and localizations of the studied proteins may influence the activation of Wnt signaling in glioblastoma. These findings may contribute to better understanding of glioblastoma molecular profile.