

## Summary

### Metabolism of $^{18}\text{F}$ -FDG (2-fluoro-2-deoxy-D-glucose) in Tumor Cells

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Tumor cell components obtained at 5 min, 1 hr and 3 hr after  $^{18}\text{F}$ -FDG injections were analyzed by radio-TLC.

Major metabolites were  $^{18}\text{F}$ -FDG-phosphate and  $^{18}\text{F}$ -FDM-phosphate.  $^{18}\text{F}$ -FDM and three unidentified compounds were found as minor metabolites. Time course of the composition of metabolites are as follows;  $^{18}\text{F}$ -FDG-phosphate was 88% at 5 min after injection, but decreased to 53% at 3 hr after.  $^{18}\text{F}$ -FDM-

phosphate was increased to 38% at 3 hr after injection.

In conclusion,  $^{18}\text{F}$ -FDG is promptly phosphorylated after transportation into cell, and then exists as  $^{18}\text{F}$ -FDG-phosphate or  $^{18}\text{F}$ -FDM-phosphate. These results support known FDG distribution and metabolism, and it is possible that we use the information accumulated until now employing FDG manufactured by commercial supply system.

**Key words:**  $^{18}\text{F}$ -FDG, PET, Metabolism, Tumor.