

Imaging of adenosine A₁ receptors in the human brain by positron emission tomography with [¹¹C]MPDX

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We report the first clinical PET study using [1-methyl-¹¹C]8-dicyclopropylmethyl-1-methyl-3-propylxanthine ([¹¹C]MPDX) for imaging adenosine A₁ receptors in the human brain. The binding of [¹¹C]MPDX evaluated quantitatively as the distribution volume by a graphical analysis was high in the striatum and thalamus, and low in the cerebellum. The distribution pattern of [¹¹C]MPDX was coincident with that of adenosine A₁ receptors *in vitro* reported previously, and was different from those of blood flow and [¹⁸F]FDG. The [¹¹C]MPDX PET has the potential for mapping adenosine A₁ receptors in the human brain.

Key words: [¹¹C]MPDX, adenosine A₁ receptor, positron emission tomography