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(54) **BROWN ADIPOCYTE PROGENITORS IN HUMAN SKELETAL MUSCLE**

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(58) **Field of Classification Search**

None  
See application file for complete search history.

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**ABSTRACT**

(57) Brown adipose tissue ("BAT") progenitor cells and methods for identifying BAT progenitor cells in a population of cells are provided. Methods are also provided for inducing differentiation of BAT progenitor cells into differentiated brown adipocytes, inducing expression or increased activity levels of BAT uncoupling protein-1 ("UCPI"), and for identifying agents capable of inducing differentiation of BAT progenitor cells into brown adipocytes and/or inducing expression or increased activity levels of UCPI. Differentiated brown adipocytes and agents and methods for inducing differentiation of BAT progenitor cells can be used for treatment of or the making of medicaments for the treatment of metabolic diseases or conditions in a patient such as obesity, overweight, impaired glucose tolerance, insulin-resistance, type 2 diabetes, dyslipidemia, hypertension, cardiovascular diseases, metabolic syndrome, and the like. Differentiated brown adipocytes and agents and methods for inducing differentiation of BAT progenitor cells can be used for prevention of hypothermia.

**10 Claims, 5 Drawing Sheets**